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TRANSACTIONS

OF THE

Maine State Pomological Society

FOR THE YEAR 1894

INCLUDING THE PROCEEDINGS OF THE WINTER MEETING,
HELD IN FOXCROFT, JANUARY 8th AND 9th, 1895



EDITED BY THE SECRETARY

D. H. KNOWLTON

AUGUSTA

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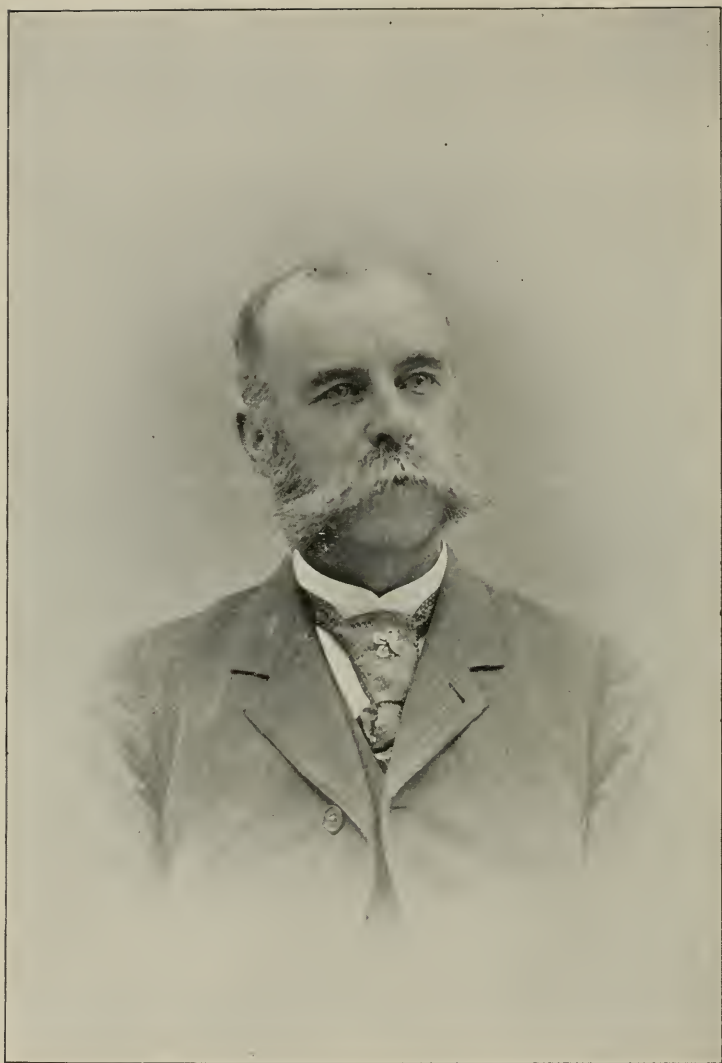
1894-95

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CHARLES S. POPE,
MANCHESTER.

President Maine State Pomological Society 1884-1895.

[See page 121.]

REPORT OF THE SECRETARY.

Again it becomes the duty of your secretary to present an annual report of the transactions of the Society. During the year it has afforded me great pleasure and assured me of the progressive work in the State that a larger number all the while are becoming interested in fruit culture. Some men living secluded lives in rural homes, with little reading have often in years past, almost or quite ignored the words of horticultural societies. Unwilling to admit they do not know all there is of fruit culture, they behold the grand success of others, but they are like those in ancient days having eyes they see not. Many of these are now seeking knowledge which only their vanity in the past has denied them. As illustrative of this an intelligent fruit-grower inquired about the best varieties to plant. I gave him all the points I could, and he concluded by saying that he knew of no better variety than the Baldwin and he was going to set a lot of those in the spring. He remarked that one of the most successful orchards in the county was developed in this way, but failed to note that the cold of winter in this case twice froze back the tops before the trees were acclimated. The provoking thing in this particular case is that the man has grown fruit for nearly half a century. Other men realize the necessity for knowledge and are willing to seek it. This is one of the most encouraging features of the situation. For those who seek knowledge in these days will find it.

THE 1894 CROP.

The fruit crop in Maine has been large, though it can hardly be called a full crop. Many dealers have assured me that the crop is really much larger than in 1893. Travelling among the orchards in the autumn, one could not fail to notice that many of the trees were nearly barren. The statistics have been deceptive again, so much

so that we are inclined to give them little consideration. Here in Maine the young trees, that are coming into bearing may explain the deception, but it is a significant fact that most of the large orchards bore small crops of fruit.

CAUSES OF BLIGHT.

In most parts of the State there was a full bloom, and just what caused the blight later has been much discussed and has not yet been fully settled. There is however the best of evidence that the scab fungus was one of the most active agents. The scab, or some other cause on trees in the writer's neighborhood acted apparently on the foliage, blossom and fruit. Early in the season the trees were dotted with yellow shrivelled leaves, and all through the season an examination of the leaves revealed the presence of disease, and scientific men assure us that it is the scab. Whatever it may be, if it continues a few years longer the indications are that many trees will die. Good results have followed spraying as will be seen in Professor Munson's paper, which forms a part of the present volume.

THE MARKET.

So far the market for apples has offered only low prices for fruit. A large part of the crop was sold early in the season at \$1.50 for No. 1 fruit, but the buyers found no profit in paying that price. Apples from several points have been shipped in bulk to western cities. The only selection called for was that the red apples should be dumped into the same car. One lot contained at least twenty kinds. For fruit in this condition the buyers have paid \$1 per barrel. These apples were shipped to western cities to be sold in bulk to hawkers. While the growers may get fair pay for their fruit, the reputation of Maine apples will surely suffer. Some political writers have charged a part of the low price to the action of the new tariff. Of course Canadian fruit now pays a less tariff than under the previous law, and to this extent the price must yield. Later in the winter fruit sold higher where it had been held by the growers.

STYLE OF PACKING.

The agents of English buyers are assuring the public of better prices for the remainder of the season. They also emphasize the new style of packing and claim that the fruit carefully wrapped in

paper and packed in cases has brought satisfactory prices. The matter has often been discussed at our meetings, but our fruit growers have still to learn that an inferior apple is not improved by being concealed among better fruit, or wrapped in paper. On the other hand it would seem that Maine fruit has already suffered too much from dishonest packing to permit it in this case.

THE SOCIETY'S FUNDS.

The last legislature increased our appropriation to one thousand dollars. In consequence of an oversight in the engrossing of the appropriation bills only the usual sum of \$500 was granted. After consulting among ourselves and with the governor and others the omission was sorely regretted. An extension of our work had been planned along various lines, and the conclusion was reached that the interests of the society and of the cause it represents made it necessary to carry forward the additional work. This has accordingly been done, and to-day we find the society in debt in consequence. Some of the State officials argued that the money in full ought to be paid to our society, but all seemed to agree that it was wise to increase our work. It is now proposed to ask the legislature to make good the deficiency by granting us the aid the last legislature overlooked. Later on the present legislature without dissent granted the funds to meet the deficiency.

FALL MEETING.

The fall meeting of the executive committee was held in Phillips, November 8th. The Grange cordially opened its hall for our use. The meeting was well advertised and well attended. There was an excellent display of fruit, showing in the most conclusive manner that favorable conditions exist among the hills of Franklin county for fruit culture. The exercises of the meeting were well received and reported by the papers. In the opinion of the Secretary this meeting was one of the most profitable held by the society.

STATE FAIR MEETING.

The public meeting held Thursday evening of the State Fair was a well attended one. On this occasion Mrs. Alonzo Towle of Freedom, N. H., delivered an entertaining address on flower culture, entitled "Behind the Hedge Row."

OUR WINTER MEETINGS.

Secretary McKeen has urged us to hold our winter meeting earlier, so that the work of the agricultural department may be closed up before the new year begins. The plan is a good one, and it will be a pleasure to co-operate with him. This year circumstances were adverse to this arrangement, owing to conditions that are not likely to exist in the future. The two organizations are working so harmoniously together in promoting the interests of agriculture that no effort should be spared to increase the efficiency of both.

ANNUAL EXHIBITION.

Our annual exhibition was held as usual with the State Agricultural Society in Lewiston. The first days of September are too early for a representative exhibition of fruits, but this year there was such a profusion of flowers that the exhibition as a whole was the fullest your Secretary has seen in the State. Mrs. Towle served as a judge on flowers and her work was entirely acceptable. We were unable to obtain a competent judge on fruits within a reasonable distance outside the State. The exhibitors are much better satisfied when judging can be done by experts, and in this case it was no fault of the officers that it was not done so at this exhibition.

Several important changes were made in the premium list, one of which was a premium on each correctly named variety of apples and pears. The object of the premium was to secure a full exhibition of the fruit grown in Maine. We show in our list a preference by specifying certain varieties on which we pay a one dollar premium, and for others not given in our list and correctly named we give a fifty-cent premium. This brought out a large number of varieties that heretofore have not been shown. In all 111 varieties were exhibited. The cost to the society was not very great, and the exhibition is made much more valuable to visitors. Several objects of interest were shown by the devotees of horticulture. Mr. Edward K. Whitney, one of our oldest and most successful fruit growers, sent in for our examination a plate of well-grown figs. They were examined with great interest, and many wishes were expressed for the health and happiness of the exhibitor. Some freaks in fruit culture were presented to the Secretary. One of these was a Sops-of-Wine apple which grew on a tree whose

limbs interlaced a Flemish Beauty pear. In shape it was a perfect pear, but in other respects it was an apple. In another case an apple was shown, the blossom end of which was a beautiful red Baldwin, and the stem end a well-developed Russet. These freaks suggest that in years to come some skilful horticulturist may be able to bring forth new fruits, that may excel those we now have. When we are able to work more fully with nature's laws we are likely to be rewarded by fruits far better than the present favorites.

AGENCIES AT WORK.

There has been an active and cordial co-operation on the part of the press in the State. The Secretary desires to express his personal gratitude to the Maine Farmer, Lewiston Journal and Kennebec Journal in particular. Special prominence has been given to horticultural subjects by the gentlemen having in charge the agricultural departments of these journals. They have not only given fruit matters intelligent consideration, but in many cases have diligently and ably investigated for themselves, and they have generously given the public the benefit of these labors. The Lewiston Journal recently published in answer to the inquiries of its agricultural editor results reached by fruit growers of the State in spraying for the destruction of fungi and insects. The experience of several fruit growers was found very readable and the conclusions will prove helpful to others. So much is found in the papers on fruit culture, prepared by writers or speakers from other sections of the country, it is worth a great deal to have these conclusions reached on Maine farms and in a Maine climate. Even those speakers who visit us and talk of fruit culture, forget that they are away from home, and tell us just how these things are done in New York or New Jersey. It is not an easy task to adapt their talk and theories to Maine conditions. Information was sought upon this question, "Can farmers afford to raise apples for \$1.25 a barrel?" It was ably discussed by several writers and the conclusion reached that intelligent care bestowed upon orchards in Maine would pay as well or better at this price than many other farm crops. The Secretary would add to this, that with our low priced orchard land the minimum cost of raising apples has not yet been reached. It is not known how cheaply apples may be grown in Maine, and until this feature of the problem is considered it is largely guess work. The fruit growers of

Maine are squarely facing the question, and some of us may live to know how much our fertile hillsides, under the skilful manipulation of the horticulturists, may be made to produce. We are just getting down to the question in good shape, and the next four years are promising many interesting revelations.

Our society is also indebted to these and other journals in the State, which have published our notices and full reports of our meetings, and we find with us at this our annual meeting a full representation of the press. We are glad to welcome them here and to greet them as co-laborers in carrying forward the great industry which we represent.

We were gratified at the full reports published of our annual meeting. We are always glad to welcome the members of the press at our meetings, but we recognize them as co-laborers in carrying forward the great industry which we represent.

D. H. KNOWLTON, *Secretary*.

OFFICERS FOR 1895.

President.

JOHN W. TRUE, New Gloucester.

Vice Presidents.

S. H. DAWES, Harrison.

D. P. TRUE, Leeds Center.

Secretary.

D. H. KNOWLTON, Farmington.

Treasurer.

CHARLES E. WHEELER, Chesterville.

Executive Committee.

The President and Secretary, *ex-officio*; A. E. Andrews, Gardiner;
W. M. Munson, Orono; C. H. George, Hebron.

Trustees.

Androscoggin County,	Charles L. Emerson, South Turner.
Aroostook	" J. W. Dudley, Castle Hill.
Cumberland	" S. R. Sweetser, Cumberland Center.
Franklin	" Herman Corbett, Farmington.
Hancock	" C. G. Atkins, Bucksport.
Kennebec	" E. A. Lapham, Pittston.
Knox	" Alonzo Butler, Union.
Lincoln	" H. J. A. Simmons, Waldoboro'.
Oxford	" S. M. King, South Paris.
Penobscot	" C. A. Arnold, Arnold.
Piscataquis	" H. L. Leland, East Sangerville.
Sagadahoc	" A. P. Ring, Richmond.
Somerset	" James S. Hoxie, North Fairfield.
Waldo	" A. M. Mansur, East Dixmont.
Washington	" ———.
York	" John Hanscom, Saco.

Member of Experiment Station Council.

Chas. S. Pope, Manchester.

Committee on Nomenclature.

Z. A. Gilbert, North Greene; D. P. True, Leeds Center;
C. M. Weston, Belgrade.

Committee on New Fruits.

A. S. Ricker, Turner; E. C. Hackett, West Gloucester;
Willis A. Luce, South Union.

MEMBERS OF THE SOCIETY.

NOTE.—Any errors or changes of residence should be promptly reported to the Secretary. Members will also confer a favor by furnishing the Secretary with their full Christian names where initials only are given.

LIFE MEMBERS.

Andrews, A. Emery	Gardiner	Gurney, Lemuel... ..	Hebron
Andrews, Charles E.....	Auburn	Hackett, E. C.	West Gloucester
Arnold, C. A.	Arnold	Hanscom, John.....	Saco
*Atherton, H. N.....	Hallowell	Harlow, S. C.	Bangor
Atherton, Wm. P....	Hallowell	*Harris, N. C.....	Auburn
Atkins, Charles G.	Bucksport	Harris, N. W.....	Auburn
Atwood, Fred.....	Winterport	Harris, William M....	Auburn
Averill, David C.	Temple	Harvey, F. L.....	Orono
Bailey, W. G.	Freeport	*Hersey, T. C.....	Portland
Bennoch, John E.	Orono	Hobbs, M. Curtis.....	West Farmington
Boardman, Samuel L.	Augusta	*Hoffses, Elmas.....	Warren
Briggs, D. J.....	South Turner	Hoxie, James S.....	North Fairfield
Briggs, John	Turner	Hoyt, Mrs. Francis.....	Winthrop
Burr, John	Freeport	Ingalls, Henry.....	Wiscasset
Butler, Alonzo.....	Union	Jackson, F. A.....	Winthrop
*Carter, Otis L.	Etna	*Jewett, George	Portland
Chase, Henry M., 14 Quincy St., Portland		Johnson, Isaac A.....	Auburn
Chase, Martin V. B. ..	Augusta	*Jordan, Francis C.....	Brunswick
*Clark, Eliphalet	Portland	*Kenniston, E. H.....	Arnold
Cole, Horatio G.....	Boston, Mass	Knowlton, D. H.....	Farmington
Corbett, Herman	Farmington	Lapham, E. A.	Pittston
Crafts, Moses	Auburn	Lombard, Thurston M.....	Auburn
*Crosby, William C.....	Bangor	*Low, Elijah ..	Bangor
Dana, Woodbury S.....	Portland	*Low, S. S.....	Bangor
Dawes, S. H.....	Harrison	Luce, Willis A.	South Union
DeRocher, Peter	Bradentown, Fla	McLaughlin, Henry	Bangor
Dirwanger, Joseph A.	Portland	Merrill, T. M.....	West Gloucester
Dunham, W. W.	North Paris	*Metcalf, M. J.....	Monmouth
Dyer, Milton	Cape Elizabeth	Moody, Charles H.....	Turner
*Emerson, Albert	Bangor	Moore, William G.....	Monmouth
Emerson, Charles L.....	South Turner	Moor, F. A.....	Waterville
Farnsworth, B. B.	Portland	Morton, J. A.....	Bethel
Frost, Oscar F.	Monmouth	Morton, William E.....	Portland
*Gardiner, Robert H.....	Gardiner	*Noyes, Albert	Bangor
Gardiner, Robert H.....	Boston, Mass	Perley, Chas. L..Seward's (Vassalboro')	
George, C. H.....	Hebron	Pope, Charles S.....	Manchester
Gilbert, Z. A.....	North Greene	Pulsifer, D. W.	Poland
Goddard, Lewis C	Woodfords	Purinton, E. F....	West Farmington
*Godfery, John E.....	Bangor	*Richards, F. G.....	Gardiner

*Deceased.

LIFE MEMBERS—CONCLUDED.

Richards, John T.	Gardiner	Strattard, Mrs. A. B.	Monroe
*Richardson, J. M.	Gardiner	Sweetser, S. R.	Cumberland Center
Ricker, A. S.	Turner	*Taylor, Joseph	Belgrade
Roak, George M.	Auburn	Taylor, Miss L. L., (Lakeside)	Belgrade
Robinson, Henry A.	Foxcroft	Thomas, William W., Jr.	Portland
Rolfe, Samuel	Portland	Thomas, D. J.	North Auburn
Sanborn, Miss G. P.	Augusta	Tilton, William S.	Boston, Mass
Sawyer, Andrew S.	Cape Elizabeth	Townsend, Mrs. B. T.	Freeport
Sawyer, George B.	Wiscasset	True, Davis P.	Leeds Center
*Shaw, Stillman W.	West Auburn	True, John W.	New Gloucester
Simmons, H. J. A.	Waldoboro'	*Varney, James A.	The Dalles, Oregon
Skillings, C. W.	North Auburn	Vickery, James.	Portland
*Smith, Alfred.	Monmouth	Vickery, John.	Auburn
Smith, Henry S.	Monmouth	Wade, Patriek	Portland
Starrett, L. F.	Warren	Walker, Charles S.	Peru
Stetson, Henry	Auburn	Waterman, Willard H.	East Auburn
*Stetson, Isaiah	Bangor	*Weston, James C.	Bangor
Stilphen, Asbury C.	Gardiner	Wharff, Charles S.	Gardiner
Stanley, Charles	Winthrop	Wheeler, Charles E.	Chesterville
Stanley, O. E.	Winthrop	Whitney, Edward K.	Harrison
Staples, G. K.	Temple	Woodard, Mrs. S. M.	Gardiner
Strout, S. F.	West Falmouth	Woodman, George W.	Portland

ANNUAL MEMBERS, 1894.

Bickford, A. K.	Monmouth	Nowell, F. E.	Fairfield
Chandler, Mrs. Lucy A.	Freeport	Prescott, G. N.	East Monmouth
Cummings, Mrs. Anthony.	Auburn	Ridley, B. H.	Jay
Cobb, J. O.	Union	Ring, A. P.	Richmond Corner
Eastman, A. A.	Dexter	Robbins, R. B.	Union
Glover, G. A.	Naples	Shurtleff, S. G.	South Livermore
Grover, Mrs. F. D.	Bean's Corner	Sleeper, F. H.	Lewiston
Hawkins, M. P.	Auburn	Snow, G. W.	Newburg
Judkins, Charles H.	Chesterville	Spratt, Lillian A.	Kenduskeag
Keith, Walter E.	Winthrop	Stoddard, Edith A.	Belfast
King, S. M.	South Paris	Tarr, E.	Castle Hill
Klusener, Mrs. E.	Auburn	Tolman, I. B.	Union
Leland, H. L.	East Sangerville	Toothaker, L. P.	Dixmont
Leland, W. E.	East Sangerville	Varney, F. L.	East Lowell
Lemont, J. M.	West Bath	Waterman, Mrs. C. E.	East Auburn
Marrow, J. H.	South Smithfield	Willard, S. D.	Geneva, N. Y
Miller, Chas.	East Union	Wright, Fred.	Bath
Munson, W. M.	Orono	Wright, L. E.	West Bath

ANNUAL MEMBERS, 1895.

Crooker, W. W.	Monson	Munson, W. M.	Orono
Judkins, Charles H.	Chesterville	Norris, J. F.	Foxcroft
Larrabee, O. L.	West Levant	Ridley, B. H.	Jay
Leland, H. L.	East Sangerville		

TREASURER'S REPORT.

Statement of the Financial Condition of the Maine State Pomological Society for the Year ending December 31, 1894.

RECEIPTS.

Cash on hand January 1st, 1894	\$ 92 65
From the State Agricultural Society.....	500 00
From the State of Maine	538 64
From life membership	40 00
From annual membership	39 00
Interest from permanent fund	38 00
Loan	600 00

\$1,848 29

EXPENDITURES.

Premiums	\$789 45
Loan....	300 00
Salary of the Secretary for 1893	140 00
Expense of officers.....	132 47
Expense of Executive Committee	115 29
Expense of State Fair and plants for children	87 47
Printing and binding	61 71
Judges at Fair.....	27 00
Interest on loan	1 25
Cash on hand December 31, 1894.....	193 65

\$1,848 29

FINANCIAL CONDITION.

ASSETS.

Bounty due from the State.	\$1,000 00
Property owned by Society	200 00
Permanent fund.....	719 73
Cash on hand.....	193 65

\$2,113 38

LIABILITIES.

Due on loan, First National Bank, Farmington	\$600 00
Outstanding orders	125 00

\$725 00

PERMANENT FUND.

CREDIT.

By fees of 114 life members to December 31, 1893.....	\$1,140 00
of Lewis C. Goddard.....	10 00
of Herman Corbett.....	10 00
of Miss G. P. Sanborn	10 00
of Mrs. B. T. Townsend	10 00
	<hr/>
	\$1,180 00

DEBIT.

To deposit in Wiscasset Bank.....	\$ 19 73
Farmington National Bank stock	400 00
Merchants' National Bank stock, Gardiner.....	200 00
Farmington water stock	100 00
due from the Society December 31, 1895	460 27
	<hr/>
	\$1,180 00

CHARLES E. WHEELER, *Treasurer.*

List of Premiums Awarded at the Annual Exhibition.

Class 1—APPLES.

For best general exhibition of apples: S. H. Dawes, Harrison, first, \$15; C. I. Perley, South Vassalboro, second, \$10; Walter E. Keith, Winthrop, third, \$6; B. H. Ridley, Jay, gratuity, \$5.

For best general exhibition of apples grown in Androscoggin county D. J. Briggs, South Turner, first, \$8; D. P. True, Leeds Center, second, \$6.

For same in Aroostook county: E. Tarr, Castle Hill, first, \$8.

For same in Cumberland county: S. H. Dawes, first, \$8; J. W. True, New Gloucester, second, \$6.

For same in Franklin county: M. C. Hobbs, West Farmington, first, \$8; Herman Corbett, Farmington, second, \$6; G. K. Staples, Temple, third, \$3.

For same in Kennebec county: J. Pope, Manchester, first, \$8; W. R. Wharff, Gardiner, second, \$6; R. H. Gardiner, Gardiner, third, \$3.

For same in Knox county: Alonzo Butler, Union, first, \$8; Willis A. Luce, South Union, second, \$6.

For same in Lincoln county: H. J. A. Simmons, Waldoboro, first, \$8.

For same in Oxford county: C. H. George, Hebron, first, \$8; S. M. King, South Paris, second, \$6; Lemuel Gurney, Hebron, third, \$3.

For same in Penobscot county: C. A. Arnold, Arnold, first, \$8; L. P. Toothaker, Dixmont, second, \$6; G. W. Snow, Newburg, third, \$3.

For same in Piscataquis county: W. E. Leland, East Sangerville, first, \$8; H. L. Leland, East Sangerville, second, \$6.

For same in Sagadahoc county: Frederick Wright, Bath, first, \$8; L. E. Wright, Woolwich, second, \$6; J. M. Lemont, West Bath, third, \$3.

For same in Somerset county: J. S. Hoxie, North Fairfield, first, \$8; F. E. Nowell, Fairfield, second, \$6; J. H. Merrow, South Smithfield, third, \$3.

For same in Waldo county: Mrs. A. B. Strattard, Monroe, second, \$6.

Collection Crab Apples: J. S. Hoxie, first, \$1; Alonzo Butler, second, 50c.

SINGLE PLATES.

Baldwins: A. P. Ring, Richmond Corner, first, \$5; R. H. Gardiner, second, \$3; S. H. Dawes, third, \$2.

Gravenstein: A. S. Ricker, Turner, first, \$3; S. H. Dawes, second, \$2; D. J. Briggs, third, \$1.

Hubbardston Nonsuch: J. Pope, first, \$3; W. R. Wharff, second, \$2.

Northern Spy: R. H. Gardiner, first, \$3; C. I. Perley, second, \$2; W. A. Luce, third, \$1.

Rhode Island Greening: A. K. Bickford, Monmouth, first, \$5; A. S. Ricker, second, \$3; Lemuel Gurney, third, \$2.

Roxbury Russets: Walter E. Keith, first, \$3; R. H. Gardiner, second, \$2; G. N. Prescott, East Monmouth, third, \$1.

Talman's Sweet: A. S. Ricker, first, \$3; Alonzo Butler, second, \$2; S. H. Dawes, third, \$1.

Tompkins King: S. H. Dawes, first, \$3; W. R. Wharff, second, \$2; J. W. True, third, \$1.

Yellow Bellflower: R. H. Gardiner, first, \$3; W. R. Wharff, second, \$2; J. H. Merrow, third, \$1.

Alexander: M. C. Hobbs, first, \$1; S. H. Dawes, second, 50c.

American Golden Russet: H. J. A. Simmons, first, \$1; W. A. Luce, second, 50c.

Ben Davis: W. E. Rose, Greene Corner, first, \$1; Lemuel Gurney, second, 50c.

Deane: H. Corbett, first, \$1; M. C. Hobbs, second, 50c.

Duchess of Oldenburg: S. H. Dawes, first, \$1; M. P. Hawkins, second, 50c.

Early Harvest: C. A. Arnold, first, \$1; H. J. A. Simmons, second, 50c.

Fallwater: J. Pope, first, \$1; C. I. Perley, second, 50c.

Fall Harvey: C. H. Judkins, Chesterville, first, \$1; A. S. Ricker, second, 50c.

Fameuse: A. K. Bickford, first, \$1; S. M. King, second, 50c.

Garden Royal: B. H. Ridley, Jay, first, \$1; T. J. Wheeler, Chesterville, second, 50c.

Granite Beauty: C. I. Perley, first, \$1; H. J. A. Simmons, second, 50c.

Jewett's Fine Red: S. H. Dawes, first, \$1; F. E. Nowell, second, 50c.

King Sweeting: F. E. Nowell, first, \$1; J. S. Hoxie, second, 50c.

Large Yellow Bough: F. H. Sleeper, Lewiston, first, \$1; I. B. Tolman, Union, second, 50c.

McIntosh Red: Chas. Miller, Union, first, \$1; C. I. Perley, second, 50c.

Milding: C. I. Perley, first, \$1; H. J. A. Simmons, second, 50c.

Mother: R. H. Gardiner, first, \$1; A. J. Kenniston, second, 50c.

Munson Sweet: H. Corbett, first, \$1; Hall and Wheeler, second, 50c.

Peck's Pleasant: R. H. Gardiner, first, \$1.

Pomme Royale: C. H. George, second, 50c.

Porter: S. H. Dawes, first, \$1; A. S. Ricker, second, 50c.

Pound Sweet: S. H. Dawes, first, \$1; J. M. Lemont, second, 50c.

President: A. S. Ricker, first, \$1; F. E. Nowell, second, 50c.

Primate: G. K. Staples, first, \$1; J. S. Hoxie, second, 50c.

Pumpkin Sweet: Walter E. Keith, first, \$1; J. Pope, second, 50c.

Red Astrachan: H. Corbett, first, \$1; S. H. Dawes, second, 50c.

Russell: B. H. Ridley, first, \$1.

Somerset: F. E. Nowell, first, \$1; J. H. Merrow, second, 50c.

Stark: J. W. True, first, \$1.

Starkey: J. Pope, first, \$1; C. I. Perley, second, 50c.

Tetofsky: S. H. Dawes, first, \$1; J. S. Hoxie, second, 50c.

Wagener: G. W. Snow, first, \$1; S. H. Dawes, second, 50c.

Wealthy: J. W. True, first, \$1; I. B. Tolman, second, 50c.

William's Favorite: S. M. King, first, \$1; W. A. Luce, second, 50c.

Winthrop Greening: E. A. Lapham, Pittston, \$1; R. H. Gardiner, second, 50c.

Yellow Transparent: C. H. George, first, \$1; M. C. Hobbs, second, 50c.

Sweet Russet: A. S. Ricker, second, 25c.

Newtown Pippin: I. B. Tolman, first, 50c.

Westfield Seeknofurther: S. H. Dawes, first, 50c; C. H. George, second, 50c.

Orange Sweet: C. H. Judkins, first, 50c; Hall and Wheeler, second, 25c.

Maiden's Blush: A. K. Bickford, first, 50c; F. E. Nowell, second, 25c.

Minister: A. S. Ricker, first, 50c; Alonzo Butler, second, 25c.

Ribston Pippin: A. S. Ricker, first, 50c; E. A. Lapham, second, 25c.

Kilham Hill: A. S. Ricker, first, 50c; J. S. Hoxie, second, 25c.

Twenty Ounce: D. P. True, first, 50c; W. S. Phinney, Standish, second, 25c.

Gloria Mundi: B. H. Ridley, first, 50c; D. P. True, second, 25c.

Swaar: D. P. True, first, 50c.

Golden Ball: J. M. Lemont, first, 50c.

Mann: G. N. Prescott, East Monmouth, first, 50c; J. M. Lemont, second, 25c.

Sutton Beauty: S. G. Shurtleff, South Livermore, first, 50c.

Princess Louise: S. G. Shurtleff, first, 50c.

Shiawassa: S. G. Shurtleff, first, 50c.

Geneva Pippin: J. S. Hoxie, first, 50c.

Fall Jenneting: S. H. Dawes, first, 50c; J. S. Hoxie, second, 25c.

Pennock: J. S. Hoxie, first, 50c; F. E. Nowell, second, 25c.

Grimes' Golden: C. H. George, first, 50c; Alonzo Butler, second, 25c.

Gano: J. S. Hoxie, first, 50c.

Pomme Gris: J. S. Hoxie, first, 50c.

Pewaukee: E. A. Lapham, first, 50c; Hall and Wheeler, second, 25c.

Benoni: Charles Miller, East Union, first, 50c; J. S. Hoxie, second, 25c.

- Gideon: J. S. Hoxie, first, 50c.
- Spitzenberg: S. H. Dawes, first, 50c; C. I. Perley, second, 25c.
- New York Pippin: S. H. Dawes, first, 50c.
- Lady Sweet: C. H. George, first, 50c; F. E. Nowell, second, 25c.
- Bailey Sweet: S. H. Dawes, first, 50c.
- River: B. H. Ridley, first, 50c; F. E. Nowell, second, 25c.
- Fall Greening: I. B. Tolman, first, 50c.
- Black Oxford: A. K. Bickford, first, 50c; C. H. Judkins, second, 25c.
- Fall Orange: S. M. King, first, 50c.
- Maxim Seedling: S. M. King, first, 50c.
- Garden Beauty: S. M. King, first, 50c.
- York Imperial: S. M. King, first, 50c.
- Foundling: S. M. King, first, 50c; C. H. George, second, 25c.
- Franklin Sweet: Hall & Wheeler, first, 50c.
- St. Lawrence: Alonzo Butler, first, 50c; F. E. Nowell, second, 25c.
- Caleph Sweet: B. H. Ridley, first, 50c.
- Parker Sweet: B. H. Ridley, first, 50c.
- Mammoth: B. H. Ridley, first, 50c.
- Acme: B. H. Ridley, first, 50c.
- Hurlbut: G. W. Snow, first, 50c; Alonzo Butler, second, 25c.
- August Greening: F. E. Nowell, first, 50c.
- Blue Pearmain: C. I. Perley, first, 50c; W. A. Luce, second, 25c.
- Moses Wood: C. I. Perley, first, 50c.
- Poughkeepsie Russet: Alonzo Butler, first, 50c; W. A. Luce, second, 25c.
- Hightop Sweet: F. E. Nowell, first, 50c.
- Sops-of-Wine: Alonzo Butler, first, 50c; F. E. Nowell, second, 25c.
- Haas: C. A. Arnold, first 50c.
- American Golden Pippin: Alonzo Butler, first, 50c.
- Colvert: Alonzo Butler, first, 50c; F. E. Nowell, second, 25c.
- Hawley: Alonzo Butler, second, 25c.
- Jersey Sweet: Alonzo Butler, first, 50c.
- Rambo: Alonzo Butler, first, 50c.

Keswick Codlin: Alonzo Butler, first, 50c.

Cooper's Market: Alonzo Butler, first, 50c; F. E. Nowell, second, 25c.

Liscomb: W. A. Luce, first, 50c.

Golden Sweet: W. A. Luce, first, 50c.

Garden Sweet: E. A. Lapham, first, 50c.

Fall Pippin: E. A. Lapham, first, 50c; C. H. George, second, 25c.

Superb Sweet: C. H. Judkins, first, 50c.

Strawberry Sweet: Alonzo Butler, first, 50c.

Chenango Strawberry: C. H. George, first, 50c.

English Russet: C. H. George, first, 50c.

Class 2—PEARS.

For best general exhibition of pears: S. H. Dawes, first, \$10; C. I. Perley, second, \$8; D. J. Briggs, third, \$5.

Clapp's Favorite: A. S. Ricker, first, \$3; S. H. Dawes, second, \$2.

Bartlett: S. H. Dawes, first, \$3; A. S. Ricker, second, \$2.

Belle Lucrative: G. N. Prescott, first, \$1; Walter E. Keith, second, 50c.

Beurre d'Anjou: S. H. Dawes, first, \$1; Walter E. Keith, second, 50c.

Beurre Bosc: J. W. True, first, \$1.

Beurre Superfin: D. P. True, first, \$1; S. H. Dawes, second, 50c.

Beurre Clairgeau: S. H. Dawes, first, \$1; G. N. Prescott, second, 50c.

Buffum: Walter E. Keith, first, \$1; S. H. Dawes, second, 50c.

Doyenne Boussock: S. H. Dawes, first, \$1; C. H. George, second, 50c.

Duchesse d'Angouleme: S. H. Dawes, first, \$1; Alonzo Butler, second, 50c.

Fulton: D. P. True, first, \$1.

Goodale: C. I. Perley, first, \$1.

Howell: C. I. Perley, first, \$1; S. H. Dawes, second, 50c.

Louise Bonne de Jersey: S. H. Dawes, first, \$1; D. P. True, second, 50c.

Seckel: A. S. Ricker, first, \$1; S. H. Dawes, second, 50c.

Sheldon: S. H. Dawes, first, \$1; A. S. Ricker, second, 50c.

Souvenir du Congress: S. H. Dawes, first, \$1; D. P. True, second, 50c.

Lawrence: Lemuel Gurney, first, \$1; S. H. Dawes, second, 50c.

Vicar of Wakefield: Alonzo Butler, first, 50c; D. P. True, second, 50c.

Beurre d'Amalis: Walter E. Keith, first, 50c; H. J. A. Simmons, second, 50c.

Bloodgood: S. H. Dawes, first, 50c.

Rostiezer: S. H. Dawes, first, 50c.

Brandywine: S. H. Dawes, first, 50c.

Rutter: S. H. Dawes, first, 50c.

Tyson: S. G. Shurtleff, first, 50c; S. H. Dawes, second, 25c.

Gurber: S. H. Dawes, first, 50c.

Kieffer: S. H. Dawes, first, 50c; D. P. True, second, 25c.

Edmunds: Walter E. Keith, first, 50c.

Margaret: S. G. Shurtleff, second, 25c.

Eastern Belle: J. S. Hoxie, first, 50c.

Flemish Beauty: A. J. Kenniston, Simpson's Corner, first, 50c; S. H. Dawes, second, 25c.

Glout Morceau: C. I. Perley, first, 50c.

Swan's Orange: C. I. Perley, second, 25c.

Ellis: D. P. True, first, 50c.

Class 3—GRAPES.

Collection open air grapes: S. H. Dawes, first, \$5; G. A. Glover, Naples, second, \$3.

Sweetwater: A. P. Ring, first, \$1.

Class 4—PLUMS.

For best general exhibition: S. H. Dawes, first, \$6; W. A. Luce, second, \$4; D. P. True, third, \$2.

Bavay's Green Gage: W. A. Luce, second, 50c.

Bradshaw: W. A. Luce, first, \$1; D. H. Knowlton, Farmington, second, 50c.

Coe's Golden Drop: S. H. Dawes, first, \$1; C. H. George, second, 50c.

Prince's Imperial Gage: H. J. A. Simmons, first, \$1; Charles Miller, second, 50c.

Purple Gage: Lemuel Gurney, first, \$1; D. P. True, second, 50c.

Red Gage: D. P. True, first, \$1.

Guii: A. A. Eastman, Dexter, first, \$1.

Jefferson: J. W. True, first, \$1; S. H. Dawes, second, 50c.

Lawrence: S. H. Dawes, first, \$1.

Lombard: S. H. Dawes, first, \$1; C. H. George, second, 50c.

Magnum Bonum: M. P. Hawkins, first, \$1.

McLaughlin: J. W. True, first, \$1; A. A. Eastman, second, 50c.

Moore's Arctic: W. A. Luce, first, \$1; A. A. Eastman, second, 50c.

Quackenbos: W. A. Luce, first, \$1.

Washington: D. H. Knowlton, first, \$1.

Yellow Egg: Lemuel Gurney, first, \$1; J. W. True, second, 50c.

Abundance: S. G. Shurtleff, gratuity, \$1.

Felleberg: S. G. Shurtleff, gratuity, \$1; D. H. Knowlton, gratuity, 50c.

Class 5—SMALL FRUITS IN GLASS.

Currants: A. A. Eastman, first, 50c.

Gooseberries: A. A. Eastman, first, 50c.

Raspberries: A. A. Eastman, first, 50c.

Strawberries: A. A. Eastman, first, 50c.

Class 6—MISCELLANEOUS.

Quinces: S. H. Dawes, gratuity, \$1.

Figs: E. K. Whitney, Harrison, gratuity, \$1.

Blackberries: Alonzo Butler, gratuity, \$1.

Collection Canned Fruit, etc.: Mrs. H. Corbett, first, \$8; Mrs. F. D. Grover, Bean's Corner, second, \$5.

Canned Blackberries: Mrs. D. P. True, first, 50c; Mrs. Francis Hoyt, Winthrop, second, 25c.

Canned Blueberries: Mrs. D. P. True, first, 50c.

Canned Gooseberries: Mrs. F. Hoyt, first, 50c; Mrs. D. P. True, second, 25c.

Canned Peaches: Mrs. H. Corbett, first, 50c; Mrs. F. Hoyt, second, 25c.

Canned Pears: Mrs. F. Hoyt, first, 50c; Mrs. H. Corbett, second, 25c.

Canned Plums: Mrs. H. Corbett, first, 50c; Mrs. D. P. True, second, 25c.

Canned Quinces: Mrs. F. Hoyt, first, 50c; Mrs. H. Corbett, second, 25c.

Canned Raspberries: Mrs. F. Hoyt, first, 50c.

Canned Strawberries: Mrs. F. Hoyt, first, 50c; Mrs. H. Corbett, second, 25c.

Canned Tomatoes: Mrs. F. Hoyt, second, 25c.

Preserved Apples: Mrs. F. Hoyt, second, 25c.

Preserved Currants: Mrs. F. Hoyt, first, 50c.

Preserved Cherries: Miss E. B. Butler, Union, first, 50c; Mrs. F. Hoyt, second, 25c.

Preserved Pears: Mrs. F. Hoyt, first, 50c; Mrs. H. Corbett, second, 25c.

Preserved Plums: Mrs. F. Hoyt, first, 50c; Mrs. D. P. True, second, 50c.

Preserved Quince: Mrs. F. Hoyt, first, 50c; Mrs. H. Corbett, second, 25c.

Preserved Raspberries: Miss E. B. Butler, first, 50c; Mrs. H. Corbett, second, 25c.

Preserved Strawberries: Mrs. H. Corbett, first, 50c; Mrs. F. Hoyt, second, 25c.

Assorted Pickles: Mabel E. Grover, Bean's Corner, first, 50c; Mrs. F. Hoyt, second, 25c.

Tomato Catsup: Mrs. F. Hoyt, first, 50c.

Collection Apple Jellies: Mrs. H. Corbett, first, \$2; Mrs. F. D. Grover, second, \$1.

Apple Jelly: Mrs. F. D. Grover, first, \$1; Mrs. H. Corbett, second, 50c.

Crab Apple Jelly: Mrs. H. Corbett, first, 50c; Mrs. F. Hoyt, second, 25c.

Currant Jelly: Mrs. F. Hoyt, first, 50c; A. A. Eastman, second, 25c.

Grape Jelly: Mrs. F. Hoyt, second, 25c.

Quince Jelly: Mrs. H. Corbett, first, 50c; Mrs. F. Hoyt, second, 25c.

Raspberry Jelly: Mrs. F. Hoyt, second, 25c.

Rhubarb Jelly: Mrs. F. Hoyt, second, 25c.

Strawberry Jelly: Mrs. H. Corbett, first, 50c; Mrs. F. Hoyt, second, 25c.

Maple Syrup: C. H. George, first, \$1; Joseph Hibbs, Hebron, second, 50c.

Evaporated Apples: Walter Keith, first, \$3.

Celery Relish: S. B. Scribner, Lewiston, gratuity, 50c.

Maple Sugar: Lemuel Gurney, gratuity, 25c.

Tomato Pickles: Mrs. F. A. Conant, Lewiston, gratuity, 25c.

Preserved Tomato: Mrs. F. A. Conant, gratuity, 50c.

Strawberry Jam: Mrs. F. A. Conant, gratuity, 25c.

Class 7—FLOWERS.

Display of Cut Flowers: (professional) C. S. Goddard & Son, Woodfords, first, \$10.

Display of Cut Flowers: Mrs. Charles Stanley, Winthrop, first, \$10; Mrs. B. T. Townsend, Freeport, second, \$8; Mrs. A. B. Strattard, Monroe, third, \$5.

Exhibition of Dahlias: Mrs. Charles Stanley, first, \$2; Mrs. B. T. Townsend, second, \$1.

Chinese Pinks: Charles S. Walker, Peru, first, \$2; Iola Agnes Walker, Peru, second, \$1.

Lilies: Mrs. B. T. Townsend, second, \$1.

Asters: Mrs. B. T. Townsend, first, \$1; Mrs. S. T. Goodspeed, Turner Centre, second, 50c.

Pansies (named): Mrs. A. B. Strattard, second, \$1.

Pansies: Mrs. H. Corbett, first, \$1.

Zinnias: Mrs. B. T. Townsend, first, \$1; Mrs. Francis Hoyt, second, 50c.

Phlox Drummondii: Mrs. B. T. Townsend, first, \$2; Willard H. Waterman, East Auburn, second, \$1.

Stocks: Lucy A. Chandler, Freeport, first, \$1; Mrs. G. K. Staples, second, 50c.

Sweet Peas: E. C. Pope, Manchester, first, \$1; Mrs. S. T. Goodspeed, second, 50c.

Balsams: Mrs. F. Hoyt, first, \$1; Mrs. Chas. Stanley, second, 50c.

Gladioli: Lucy A. Chandler, first, \$2; Mrs. H. Corbett, second, \$1.

Petunias: Mrs. B. T. Townsend, first, \$1; Mrs. A. B. Strattard, second, 50c.

Verbenas: Lucy A. Chandler, first, \$1; Mrs. F. Hoyt, second, 50c.

Vase of Cut Flowers: Mrs. E. Klusener, Auburn, first, \$3; Mrs. H. Corbett, second, \$2; Mrs. Anthony Cummings, Auburn, \$1.

Six Button-hole Bouquets: Perez S. Burr, Freeport, second, \$1.

Professional Floral Design: Miss G. P. Sanborn, Augusta, first, \$8; C. S. Goddard & Son, second, \$5.

Corsage Bouquet: Perez S. Burr, first, \$2.

Amateur Floral Design: Lucy B. Burr, Freeport, first, \$5; Mrs. A. B. Strattard, second, \$3.

Dish of Cut Flowers: Mrs. H. Corbett, first, \$2; Mrs. F. Hoyt, second, \$1.

Basket of Cut Flowers: C. S. Goddard & Son, first, \$2; Mrs. F. Hoyt, second, \$1.

Collection of Floral Designs: Miss G. P. Sanborn, gratuity, \$5.

Exhibition of Greenhouse plants: C. S. Goddard & Son, first, \$20; Miss G. P. Sanborn, second, \$15; W. G. Bailey, Freeport, third, \$10.

Exhibition of pot plants: Lucy A. Chandler, first, \$10; Mrs. Anthony Cummings, second, \$8.

Exhibition of Ferns: C. S. Goddard & Son, first, \$3; W. G. Bailey, second, \$2.

Exhibition of Geraniums: Mrs. A. Cummings, first, \$2; W. G. Bailey, second, \$1.

Exhibition of Foliage Begonias: W. G. Bailey, first, \$2; Mrs. B. T. Townsend, second, \$1.

Exhibition Tuberous Begonias: W. G. Bailey, first, \$2; Mrs. B. T. Townsend, second, \$1.

Exhibition of Coleus: Mrs. B. T. Townsend, first, \$2; W. G. Bailey, second, \$1.

Exhibition of Gloxinias: Mrs. B. T. Townsend, first, \$2; Mrs. C. E. Waterman, second, \$1.

Double Geranium: Mrs. A. Cummings, first, 50c.

Single Geranium: Mrs. A. Cummings, second, 25c.

Foliage Begonia: Mrs. A. Cummings, first, 50c; W. G. Bailey, second, 25c.

Flowering Begonia: Mrs. B. T. Townsend, first, 50c; W. G. Bailey, second, 25c.

Tuberous Begonia: W. G. Bailey, first, 50c; Mrs. B. T. Townsend, second, 25c.

Coleus: Mrs. B. T. Townsend, first, 50c; Mrs. C. E. Waterman, second, 25c.

Fuchsia: Mrs. A. Cummings, first, 50c; Mrs. E. Klusener, second, 25c.

Carnation: W. G. Bailey, first, 50c.

Ever-blooming Rose: Mrs. A. Cummings, first, \$1.

Single Pot plant: Mrs. B. T. Townsend, first, \$2; Mrs. A. Cummings, second, \$1.

Climbing plant: Mrs. A. Cummings, second, \$1.

Pair Lawn Vases (filled): Mrs. A. Cummings, first, \$3.

Cut Wild Flowers: Mrs. C. E. Waterman, first, \$3.

Pressed Wild Flowers: Edith M. Stoddard, Belfast, first, \$5; Lillian A. Spratt, Kenduskeag, second, \$3; F. L. Varney, East Lowell, third, \$2.

WINDOW GARDEN DEPARTMENT.

Geraniums. First Premiums: Ethel Drake, Lora Bearce, Fred Greenleaf, Harry Prince, Angie Welch, Clinton Bailey, Gertrude Stetson, Belle Jordan, Sadie Tracey, Amy Cushman, Gladys Lothrop, George Bower, Lester Brett, Elwin Nutter, Auburn; Rosa Buckfield, Ethel Hunt, Edith Davis, Belle Bushby, Arthur Handy, John O'Brien, Bennie Arnone, Goldie Ware, Alice Cartland, Ethel Lewis, Lewiston, 30 cents each.

Second Premiums: Walter Hunt, Forest Atwood, Maude Preble, Charlie Woodbury, James Gould, Wallace Philoon, Vargie Pulsifer, Harold Furbush, Wallace Clement, Maud Stearns, Everett Davis, Carl Currier, Lizzie Briggs, Paul Preble, Helen Sprague, Della Brabson, Vertie Edwards, Ralph Chase, Grace Bowen, Auburn; May Joyce, Fred Nandtke, Eugene Boucher, James Daly, Alvin Riley, Willie Nason, Ray Smith, Lewiston, 20 cents each.

Coleus. First premiums: Guy Mixer, Lin Smith, Ethel Storah, Maude Larrabee, Lilla Stetson, Chester Kilgore, Arthur Decker, Auburn; Lewis Noland, Mary Cotton, Nellie Durgin, Frank Crowley, Lewiston, 30 cents each.

Second premiums: Adelbert Morse, Florence Palmer, Annie Brabson, Mabel Coombs, Ernest Lord, Lula Yeaton, Allie Garcelon, Goldie Miller, Ruby Randall, Auburn; George Robinson, Arthur Thompson, Harry Lunt, Fannie Love, Lewiston, 20 cents each.

SUMMARY OF AWARDS.

Apples—General exhibitions.....	\$219 50	
Specials.....	61 00	
Single plates.....	90 00	
	<hr/>	\$370 50
Pears—General exhibitions and single plates.....		64 25
Grapes.....		9 00
Plums		35 50
Fruits in glass, etc.....		4 00
Canned fruits.....		40 50
Plants and Flowers—Cut Flowers.....	\$57 00	
Floral Work.....	41 00	
Plants	96 50	
	<hr/>	194 50
Specials—Wild Flowers.....	\$13 00	
Children's Plants.....	16 20	29 20
		<hr/>
Total		\$747 45

LIST OF PREMIUMS AWARDED AT THE WINTER MEETING,
HELD IN FOXCROFT, JANUARY 8th and 9th, 1895.

Collection Apples: B. H. Ridley, Jay, \$5; G. K. Staples, Temple, \$4; O. L. Larrabee, West Levant, \$3; S. R. Sweetser, Cumberland Center, gratuity, \$3.

Best Plate American Golden Russets: Charles H. Judkins, Chesterville, \$1; B. H. Ridley, Jay, 50c.

Baldwin: J. W. True, New Gloucester, \$1; Chas. S. Pope, Manchester, 50c.

Ben Davis: J. W. True, New Gloucester, \$1; B. H. Ridley, Jay, 50c.

Fallwater: O. L. Larrabee, West Levant, 50c; H. L. Leland, East Sangerville, 25c.

Fall Harvey: B. H. Ridley, Jay, 50c; H. L. Leland, East Sangerville, 25c.

Fameuse: B. H. Ridley, Jay, 50c; H. L. Leland, East Sangerville, 25c.

Hubbardston Nonsuch: Chas. S. Pope, Manchester, \$1; Wm. R. Wharf, Gardiner, 50c.

Jewett's Fine Red: D. H. Knowlton, Farmington, 50c; J. W. True, New Gloucester, 25c.

Milding: H. L. Leland, East Sangerville, \$1; G. K. Staples, Temple, 50c.

Mother: Wm. R. Wharf, Gardiner, \$1.

Northern Spy: C. H. Judkins, Chesterville, \$1; L. A. Rouse, Farmingdale, 50c.

Pound Sweet: J. W. True, New Gloucester, \$1; B. H. Ridley, Jay, 50c.

Rhode Island Greening: E. W. Dunbar, Damariscotta, \$1; S. R. Sweetser, Cumberland Centre, 50c.

Rolfe: O. L. Larrabee, West Levant, \$1.

Roxbury Russets: Charles S. Pope, Manchester, \$1; H. L. Leland, East Sangerville, 50c.

Starkey: Charles S. Pope, Manchester, \$1; H. L. Leland, East Sangerville, 50c.

Stark: A. A. Eastman, Dexter, 50c; J. W. True, New Gloucester, 25c.

Talman's Sweet: Charles S. Pope, Manchester, \$1; C. H. Judkins, Chesterville, 50c.

Tompkin's King: G. K. Staples, Temple, \$1; William R. Wharf, Gardiner, 50c.

Wagener: B. H. Ridley, Jay, 50c; O. L. Larrabee, West Levant, 25c.

Wealthy: S. R. Sweetser, Cumberland Centre, \$1.

Yellow Bellflower: A. E. Andrews, Gardiner, \$1; William R. Wharf, Gardiner, 50c.

Winter Pears: D. P. True, Leeds Centre, \$1.

Lawrence Pear: D. P. True, Leeds Centre, \$1.

Vicar of Wakefield: D. P. True, \$1.

Keifer: D. P. True, \$1.

Canned Apples: Charles E. Wheeler, Chesterville, \$2.

Winter Nelis Pear: Charles S. Pope, Manchester, \$1.

Beurre Clairgeau: D. P. True, \$1.

We notice some very nice small fruits put up in small bottles by W. W. Crooker of Monson; also four glass jars of gooseberries, currants and raspberries, put up by A. R. Dodge of Dexter; for all of which your committee would recommend a gratuity.

The committee add in closing their report:

We also notice some quinces exhibited by D. P. True, Leeds Centre, that are well grown and nicely preserved, and worthy of a gratuity.

Business Transactions at the Annual Meeting.

September 6, 1894. The members of the Society met in the hall provided for the purpose on the Fair grounds, in Lewiston, at 6.30 P. M. Proceeded to the election of officers for 1895. [See page 9.]

Professor Munson stated that legislation referring to the extermination of black knot seems to be inexpedient at the present time, and the committee was accordingly granted time to prepare a final report for the Winter Meeting.

AT THE WINTER MEETING JANUARY 8TH AND 9TH, 1895.

By invitation of Mr. H. L. Leland in behalf of local organizations and citizens of Piscataquis county the annual Winter Meeting was held in Opera House, Foxcroft, January 8th and 9th, 1895. Secretary McKeen joined with the Society and the meeting was held with the most cordial good will and approval of all concerned.

The meeting was called to order at the appointed hour by the President, and the Treasurer and Secretary presented their annual reports. [See preceding pages.]

The Committee on Legislation appointed at the last Winter Meeting reported as follows:

After a thorough canvass of the subject your committee deem it unwise at present to urge legislative action looking toward the suppression of the "black knot" of plum and cherry trees. It is found that trees apparently free from disease may be infected from diseased trees at least three-fourths of a mile distant. As the culture of plums is comparatively a small industry, while the wild plum and cherry trees of our forests are an ever present menace it is doubtful if any law could prove effective. Public sentiment is not yet sufficiently strong to insure the enforcement of such measures as would be necessary.

It therefore remains for each grower to continue the fight single handed and for this society to continually agitate the question of how to deal with plant diseases. It now seems probable that black knot may be held in check by the timely use of Bordeaux mixture. If this be the case, the progressive grower will have a more valuable aid than a mere statute which from the nature of existing conditions must be inoperative.

W. M. MUNSON, }
W. A. LUCE, } Committee.
S. H. DAWES, }

Committees on exhibition of fruits, consisting of S. H. Dawes and J. F. Norris, was appointed by the President. [See page 14 for report of premiums awarded]

Committee on Resolutions, consisting of Charles S. Pope, W. M. Munson, and B. H. Ridley, was appointed, and before the close of the meeting reported as follows :

Resolved, That the Maine Pomological Society fully appreciates the cordial welcome extended by the citizens of Dover and Foxcroft, and the assistance rendered in making the program of interest.

Resolved, That the thanks of the society are due to the hotels of the two villages and to the railroads for the reduced rates given.

A special committee was appointed to consider and report on the recommendations contained in the President's address. The following gentlemen composed the committee : Charles S. Pope, Dr. H. A. Robinson and A. A. Eastman. [See page 50.]

The following resolution was presented by the Secretary and unanimously passed :

WHEREAS, We recognize that fruit growing is one of the most important industries of agriculture in the State ; and whereas we believe that the various agricultural societies in the State should do more to develop this particular industry by offering more liberal premiums for exhibitions of fruit ; therefore,

Resolved, That we recommend for the consideration of the societies the propriety of a premium of at least five dollars for the best exhibition of correctly named varieties of apples, the collection to consist of at least fifteen varieties ; that premiums of at least fifty cents per plate of five specimens be offered for the following named varieties, or as many of them as possible :

Alexander, Golden Russet, Ben Davis, Deane, Duchess of Oldenburg, Fallawater, Fall Harvey, Fameuse, Garden Royal, Granite Beauty, Jewett's Fine Red, King Sweeting, Large Yellow Bough, McIntosh Red, Milding, Munson Sweet, Peck's Pleasant, Porter, Pound Sweet, Primate, Pumpkin Sweet, Rolfe, Somerset, Stark, Starkey, Wagener, Wealthy, William's Favorite, Winthrop Greening, Yellow Transparent, Baldwin, Gravenstein, Hubbardston Nonsuch, Northern Spy, Rhode Island Greening, Roxbury Russet, Talman's Sweet, Tompkins King, Yellow Bellflower.

The Pomological Society has very largely increased the size of its exhibition by offering less premiums for single plates of other correctly named varieties in addition to the list given.

The object of these recommendations is in no way an effort to dictate to any of the societies, but rather to urge upon them the importance of giving the fruit industry of the State the prominence its magnitude entitles it to receive.

Voted, That the foregoing resolution be given a passage, and respectfully referred to the Board of Agriculture for its consideration.

A copy of this resolution was sent to the State Board of Agriculture and the following note was passed by that body :

ENDORSED BY THE STATE BOARD OF AGRICULTURE.

This resolution was read and a vote taken, that the Board endorse the resolution of the Pomological Society as passed at its meeting at Foxcroft, January 8th and 9th, 1895.

Attest :

A. R. SMILEY, *Clerk*.

B. WALKER McKEEN,

Secretary State Board of Agriculture.

Later in circular form the above was sent to each agricultural society in the State.

MEETINGS OF EXECUTIVE COMMITTEE.

March 16, 1894. Met at Elm House, Auburn.

Voted, To adopt a scale of points for judging single plates of apples and pears, no plate to receive a first premium that scores less than 75 per cent; a second that scores less than 60, and a third that scores less than 50.

The schedule of premiums was revised for the next annual exhibition.

April 13th. The Secretary received from the Secretary of the Maine State Agricultural Society a copy of vote passed by the trustees of that Society, arranging terms of exhibition.

This vote as agreed upon is as follows :

Voted, To accept proposition from State Pomological Society for joint exhibition for 1894. The State Agricultural Society to pay the Pomological Society \$500 on condition that the pomological premiums shall not be reduced from last year ; the State Society to furnish two policemen the last day if requested ; to issue two single admission tickets to annual and the usual ticket to life members, not members of the State Society ; also to furnish single admission to children only who furnish plants, and that the trustees shall determine the amount of alterations in tables for which they will be responsible.

August 21. Meeting called in Lewiston to arrange for exhibition. Visited the exhibition building and agreed upon such changes as seemed best and instructed Messrs. Andrews and the Secretary to carry the same into effect.

November 8. Meeting held at the Barden House, Phillips.

The Secretary presented schedule of premiums awarded at the exhibition and the Treasurer was authorized to hire money to pay the same so far as it may be necessary.

Voted, To accept the invitation offered in behalf of the citizens of Piscataquis county, to hold the meeting at some accessible point there ; that the time and place of holding the meeting be referred to the President and Secretary.

Voted. That premiums be offered at the Winter Meeting, not to exceed those of last year, and that the Secretary be instructed to prepare the schedule.

January 9, 1895. Meeting of committee in Foxcroft following the Annual Winter Meeting.

Voted, That the President and Mr. Andrews visit Augusta and take such action to secure the deficiency, the past two years as their judgment may determine.

PUBLIC MEETINGS
OF THE
Maine State Pomological Society.

PAPERS, DISCUSSIONS, Etc.

ANNUAL MEETING,
Lewiston, September 6, 1894.

Special Meeting, Conducted by the Executive
Committee.

Phillips, November 8, 1894.

UNION WINTER MEETING,
Foxcroft, January 8 and 9, 1895.

PUBLIC MEETINGS.

PROGRAMMES.

ANNUAL MEETING DURING THE EXHIBITION.

Music, conducted by A. R. Smiley.

Election of officers.

Address by Mrs. Alonzo Towle, Freedom, N. H.,

“Inside the Hedge Row.”

SPECIAL MEETING, PHILLIPS.

Apples : Their Culture, Handling and Marketing,

Conducted by President Pope.

Paper,

John W. True, New Gloucester.

The Enemies of Fruit,

A short talk by Prof. W. M. Munson.

Discussion,

Small Fruits and Their Culture.

The subject will be opened by President Pope, and followed up by the Secretary of the Society and others.

Fruit growers were invited to bring in specimens of fruit grown in North Franklin.

UNION WINTER MEETING AT FOXCROFT, JAN. 8 AND 9, 1895.

TUESDAY, 10 A. M. BUSINESS MEETING.

Report of Treasurer.

Report of Secretary.

Other Business.

AFTERNOON.

Address of Welcome,
Response.

H. A. Robinson, D. D. S., Foxcroft.

President's Annual Address,

John W. True, New Gloucester.

The Young Orchard,

Chas. E. Wheeler, Chesterville.

EVENING.

Enemies of Fruit Culture and How to Subdue Them,
 Prof. W. M. Munson, Orono.
 Cultivation of Orchard and Small Fruits,
 O. B. Hadwen, Worcester, Mass.

WEDNESDAY, A. M.

Progress of Orchardng and Fruit Culture in Piscataquis County,
 Calvin Chamberlain, Foxcroft.
 Discussion—Condition and Prospects of Fruit Culture in Piscata-
 quis County, H. L. Leland, E. Sangerville.
 The Home Garden, Chas. S. Pope, Manchester.

AFTERNOON.

A Discussion as to what shall be Maine's Flower in the National
 Garland, Janet L. Dingley, Auburn.
 State Chairman of the Maine Floral Emblem Society.
 After the discussion there will be a ballot for the flower preferred.
 Study of Plant Life, Superintendent John R. Dunton, Rockland.

EVENING.

Good Food from the Garden,
 Miss Anna Barrows, School of Domestic Science, Boston.

FRUIT EXHIBITION.

There will be an exhibition of fruit, to which all fruit growers in the State are cordially invited to contribute.

EXHIBITION RULES.

1. The same general rules will govern this exhibition as the other exhibitions of the Society.
2. All entries must be made with the Secretary on or before 1 o'clock of the first day (January 8), and the fruit must be in place by that hour.
3. Five specimens of apples or pears will constitute a plate. Exhibitors will please take notice.

4. The Society's premiums are open for competition to all persons residing in the State ; but when premiums or gratuities exceeding \$1.00 and less than \$20.00 are awarded to a person not a member of this Society, a fee of \$1.00 will be deducted therefrom ; and when premiums and gratuities amounting to \$20.00 or more are awarded to a person not a life member of this Society, the fee for life membership will be deducted therefrom, and a certificate of membership will be issued accordingly.

PAPERS, DISCUSSIONS, ETC.,

AT THE STATE FAIR MEETING.

The address by Mrs. Alonzo Towle of Freedom, N. H.,—"Inside the Hedge Row"—was an eloquent appeal for flowers in the home garden. She urged the planting of them, described them, and gave cultural directions of value to all interested in flowers. She illustrated her lecture from her own experience in the care of flowers.

Excellent music was furnished under the direction of Mr. A. R. Smiley.

AT THE PHILLIPS MEETING.

APPLES—THEIR CULTURE, HANDLING AND MARKETING.

President Pope with a few appropriate words introduced the subject of the afternoon, and briefly called attention to some of the essentials of successful fruit culture in Maine. He then introduced Mr. John W. True of New Gloucester, who read the following paper :

In order to raise good apples and do it successfully some one has got to begin with the young trees and have them properly set and cared for, a number of years at least, and any one not having a taste for that kind of labor should never attempt it, for if he does, failure is sure to follow ; but any one with a love for the work and a real interest in it, one that can truly enjoy working around the young trees, seeing them grow and form their tops, can raise

apples and harvest them ; but that is not the money in his pocket. He has then got to market them and it is all too true that many of us fruit growers and farmers are very poor market-men. In order to be a good market-man, one has got to follow the market reports. keep himself posted as to the supply of and demand for the article he is producing, in order to get the most for his labor and skill in his particular line of work.

If he does not do this it is equal to a tax on what he has produced. After a fine crop of apples has been grown it is of the first importance that they should be well marketed. Now one of the greatest questions of the day is how shall that be done? It is now the fashion to sell them to some shipper "*right through*" and he takes them all and packs them himself, in that way the fruit grower gets rid of all his apples, at a low price to be sure, but he gets them all marketed. A large fruit grower told me within a week that he had shipped the last of his apples, 810 barrels, and the packers took practically *all* of them. It would seem to a disinterested party that that sort of business would, in the end, react on the producer a few years later ; next year or a little later our apples will not stand quite as high in the markets of the world and consequently shippers cannot pay quite as much for them and we shall be obliged to take a little less for them.

Now it is one of the easiest things in the world for a person to find fault, tear down and pick methods and systems into pieces, but not so easy a matter to substitute something better for the old, institute reforms that are an improvement. But it would really seem as though the growers of large quantities of apples could do better, get more money out of the business, if they would put a little more time and business tact into them, by packing them themselves, doing it well and honestly, and then put their own name and residence on every package. In that way, in time, consumers would find out who raised and packed good apples, and there would be a call for good fruit, well packed, at an advanced price.

As the business is now conducted it is the "*barrel*" the world over, prices all over the world are quoted by the "*barrel*." One of the questions that is being asked many times over is this : Is the barrel the best thing to pack apples in, and if it cannot be shown that there is more money in packing them in some other way then it will remain barrels to the end of the chapter. In favor of the barrel

we can say that it makes one of the *strongest* packages there is, it is also one of the easiest handled and where second-hand ones can be bought it is one of the cheapest, but the question is being agitated as to boxes being used, some growers, if I am rightly informed, in this State are using boxes this year. If boxes are to be used it would seem as though some care should be used to have them of some standard size, that is, when we see quotations of apples by the box, we should know what kind of a box is referred to.

A number of articles have appeared in the papers quite recently advocating boxes or cases for apples, one of the recommendations is for a box "with two compartments one foot square each (inside measurement)" for "*table apples*" each apple to be wrapped in paper. And there is no doubt but what it would pay to take that amount of care with our nice, high colored fruit, for they are better than oranges and I have no doubt would bring a higher price if the same care was taken with them. If such cases were used, the grower would then feel as though he would like to have his name go upon each package. The same writer also recommends a case for shipping apples with two compartments each to be fifteen and one-half inches square which would hold about the same quantity as a barrel, the case to be made of one-half inch boards for top, bottom and sides, and inch boards for ends and division in the center, but such a box I am convinced would be too large and expensive to handle. It would seem as though there ought to be a call for a package holding about a bushel or one-third of a barrel, the box to go with the apples, such a box is already made for canned goods called a three pound box, very neat, and costing about ten cents.

We know that apples that go into our retail stores by the barrel and then are measured out and sent to the consumer get very much bruised and half spoiled, when if the customer could buy a box and the box go with the apples he could well afford to pay the extra expense for the package. On making inquiry I also find that the box with two compartments one foot square inside measurement is more expensive than one of some other shape. We have had one made as a sample that is practically the same size, each compartment measuring nine inches wide, ten and three-quarters deep, and eighteen inches long, this box will hold one-half barrel and is in our opinion as heavy as it is practical to handle well, we would like to hear this question discussed in all its bear-

ings, that we may perhaps learn a better way, a way that will give the producer a better return for his labor.

Prof. W. M. Munson of the State College made a short talk on the "Enemies of Fruit." The same subject was taken up more at length at the Annual Meeting and the paper may be found in subsequent pages of the Transactions.

SMALL FRUITS AND THEIR CULTURE.

President Pope gave an account of his experience in growing strawberries. A few years ago he did not believe it would pay him to attempt to grow strawberries, but after attending a good many meetings of the Society he was persuaded to try it for a year or two. He selected a piece of moist, rich land where he could make a few long rows, so as to easily cultivate them with a horse. The first crop satisfied him that he could not afford to buy berries for his family when he could so easily raise all he wanted at slight cost. The horse does a large part of the work. He has not been without a bed of strawberries since. The plants need frequent cultivation and some cutting back of runners. Spring is the best time to set the plants, and in the fall just before the ground freezes he mulches lightly with strawy horse manure. He has successfully raised several varieties. The Crescent Seedling and Charles Downing grow well together. The Bubach is a good grower with him, but he does not like it so well as some of the other varieties. He assured his hearers that any who wished could raise strawberries, but he urged them not to be afraid of getting the soil too rich or hoeing the ground too often. "You can raise these berries much cheaper than you can buy them, and you will not do without them after you have raised them a single year."

Secretary Knowlton followed with a talk on growing raspberries, blackberries, currants and gooseberries. Nothing seemed so nice in his family as an abundance of good fruit. As the season opens with the strawberry we are often led to the belief that this is by far the best of the small fruits. It is good and much enjoyed, but he believed it could not take the place of the raspberry or the blackberry. As a fresh fruit for dessert it is the best, though the finest supper he ever ate consisted of luscious blackberries and nice bread with a cup of tea. In other words each of the small fruits has its place and we seem to want one about as much as

another, while for canning and cooking the raspberry and blackberry are certainly superior to the strawberry.

Any good corn land is good enough for these fruits. The plants for convenience should be set in rows—raspberries two feet and a half and blackberries three feet apart. The rows of the former should be at least five feet apart and of the latter six or seven. The cap varieties of raspberries should be set in rows at least seven feet apart.

The suckers form in the fall and are ready to push up through the soil early in the spring. For this reason it is much better to set the plants in the fall, from the middle of September to the middle of October. In setting cut the canes back to a foot in length or even less. The Cap varieties do better when set in the spring. The ground about them should be frequently cultivated, and only three or four of the new suckers should be allowed to grow. When the canes are about three feet high pinch off the terminal bud. This is the point where the most failures come in raising raspberries and blackberries. Permit not more than four or five canes to grow and then pinch them back. In the fall or early in the spring the growth of the previous year can be cut out and taken away. Bone meal and wood ashes make the best fertilizer, but "I have never seen a place too rich for these fruits if the rules for thinning out and pinching back are only followed."

The Cuthbert is the most popular market variety, though it is not so hardy and it will kill down occasionally, but the fruit is large and very handsome. The Turner is hardy but more like the natives. The fruit is smaller but the flavor is better. It will often bear when the Cuthbert has been winter-killed and is a little earlier. The Golden Queen is a seedling of the Cuthbert with similar habits of growth and general appearance. Of blackberries there are only two kinds which can be recommended. These are Snyder and Agawam Both are hardy, the latter a little sweeter but more likely to have a bitter flavor.

Currants and gooseberries need the old wood trimmed out frequently, but enjoy a rich, moist soil. The old fashioned currant is one of the best in flavor though it is very much smaller than some of the newer sorts. Fay's Prolific is a large fruited kind and is regarded as one of the best, while the White Grape is the best white kind.

Of gooseberries the Houghton is very much like the wild gooseberry in its habits but it is much larger and of better quality.

Most growers prefer the Downing, whose fruit is larger and if anything better. These are American varieties and entirely free from mildew. There are several new varieties but as yet not enough is known of them to speak with certainty, though they are easily raised and mildew does not trouble them. The Industry is one of these. A good English variety is the White Smith. It mildews somewhat, but when sprayed with the Bordeaux mixtures, it is free from it. The fruit is large and of excellent quality.

Tables were placed in the hall, and these were well covered with specimens of fruit grown in North Franklin. It was a surprise and pleasure to some of the committee to observe the high color and perfection of the fruit. In closing his remarks the Secretary thanked the people in behalf of the Society for bringing out so excellent an exhibition of fruit, and for the many courtesies that had been extended to the officers in connection with the meeting.

AT THE WINTER MEETING.

ADDRESS OF WELCOME.

By DR. H. A. ROBINSON.

Mr. President, Members of the Maine State Pomological Society and Board of Agriculture:

In response to the request of your Secretary and as a life member of this Society from its present organization, it becomes my duty and is also a very pleasant privilege to welcome the Society to a meeting in Piscataquis county. Although we claim the pivotal point or geographical center of the State to be within our borders, and very near where we are now assembled, we have been and are to a great extent somewhat isolated or to one side of the great fruit growing portion of the State lying to the southwestward of us. So, therefore, we have not been situated to conveniently take an active part in the meetings and exhibitions of the Society; and we feel that it is very kind and generous of you to come so far from the more convenient center of your membership to a meeting here.

We are on about the same line of latitude and the same isotherm as Moscow and Jerusalem, in the western part of this State. Here,

north of the long and high range of Charleston and Garland hills that form the southern boundary of this county, we have almost another climate from what you have who live south of that line. Here the Baldwin and some other varieties of apples are tender and liable in occasional severe winters to be injured. Pear trees when set out hardly know whether it is worth while to try to live or not, and if they do survive and grow it is in a rather feeble, half-hearted way. The wood is stained by the severity of winter, wounds heal with difficulty, and the fruitage is comparatively small. Occasionally, however, some do fairly well and give encouragement to continue trying. With grapes, only the very earliest varieties ripen.

But nevertheless, this is the birthplace of the noble Rolfe apple, and we raise apples in abundance for home use and some to ship, and we might raise an abundance of small fruits if we only would. As an example of what may be done and for the encouragement of others, I can say that strawberries have been raised here at the rate of three hundred dollars per acre, and onions at a value of five hundred dollars per acre in quarter acre lots. Currants may be profitably raised here. A Fay's Prolific currant bush, consisting of a single twig, brought here eleven years ago, has by judicious propagation been increased a thousand fold; and the sale of bushes and fruit has brought scores of dollars, besides being a benefit to the community at large, as is the introduction of any superior new fruit. If this can be done by an amateur, of course those who make a regular business of such things can do better.

It often requires no more labor to do things the right way and succeed, than the wrong way and fail. Hard work without proper knowledge is not usually successful, and hard work without proper management will meet with equal failure; but the right thing done at the right time and in the right manner is successful.

People could if they only would, and it is one of the objects of this society to encourage this very thing; to help awaken an interest in, and spread abroad a knowledge of the "know how," which is so very essential to the success of any undertaking.

This society exists for the acquisition and diffusion of knowledge; and we hope and expect as knowledge is cumulative, that those who succeed us will be benefited by the results we attain, and will know more than we do. In this direction there is one thing which is very creditable to the fathers and mothers of New England, and in which they are nearly all agreed; and that is, they all want their

children to have a better education and a better chance in the world, if possible, than they themselves have had. But too often they overlook one of the greatest factors in gaining the desired end, and that is home influence, training and instruction. Permit me a few words here in reference to the home life that has so much to do with the formation of habits for life, the moulding of character, and the success that comes from knowledge.

The child has everything to learn, and it is the privilege of the parent to be its first teacher. Have the dictionary, the cyclopedia, the atlas, and such other works of reference as you can afford, handy, and put them to daily use. Encourage the children to ask questions, and be patient in answering them. Live your school days over again in the discussion of their lessons, to your mutual advantage. Find out with them the pronunciation, spelling and meaning of the doubtful word. Hunt up the location of the place about which you have been reading, and find out all about it. Talk over and discuss with them the great events of the world at large that you read of daily, and join the results of your reading, observation and experience to the advantages of the improved methods of the schools of the present day. Encourage in them habits of carefulness, thoughtfulness, and thoroughness, of order, method and punctuality. Tell them that a high school or academic education in addition to a knowledge of the three "R's" is not to enable them to live by their wits, but to fit them to do more intelligently and efficiently some part of the world's work. The mind is educated that it may the better direct the work of the hands. Try to know a little more of something every night than you did in the morning. This in one direction is one of the right ways of right living, and as every year adds to your stock of knowledge, so every year should increase your love of its acquirement.

Children should be instructed by their parents in the great problems of nature. They have a right to know of things and to know of them in the right way. To illustrate, take a field in which you, as horticulturists, are familiar. Tell them of the duality of all living things in nature. Begin by showing the flower of the meek and lowly strawberry plant; show the structure of the flower; point out the pistils and stamens; explain to them that unless the pistils are fertilized by the pollen of the stamens no fruit and seeds will result; and if stamens do not exist in the same flower with the pistils, as is sometimes the case, another kind which has stamens in its flowers must be planted alongside that by means of wafting

by winds and the visits of insects the pollen may be carried and fruitfulness result. That a like condition exists to some extent with some kinds of grape vines and pear trees. That the pollen from the tassel of the corn must fall upon the silk, each individual thread of which connects with what will become a kernel of corn in order that the perfect ear result. That this condition of things exists throughout animate nature with plants and animals. Their minds will then be prepared to understand the sexuality of the animal kingdom in a perfectly natural and logical manner without a thought or the suggestion of a thought of indelicacy. Simple as this is an important truth has been unfolded, an important lesson learned, and in the right way.

Of course you will not fail to inculcate a spirit of that "greatest thing in the world," of which Prof. Henry Drummond writes so graphically, and which distinguishes the humane man of the present, and the still more humane man, we hope, of the future, from the savage type from which he has sprung. Knowledge is second only to "the greatest thing in the world." It has been said "knowledge is power." Let me add, in the pursuit of knowledge is happiness.

Education is of necessity partial and comparative, the ocean of knowledge is so vast. A person may be learned in one thing and unlearned in another. Some one has aptly said, "One should know something of everything, and everything of something." That is, he should have some knowledge of all things, but a thorough, exhaustive knowledge of whatever he makes his life work or business.

You come to us amid the snows and inclemencies of winter. We wish it could be at some other season of the year, and that you could view some of the scenery that nature has given us here. For who ever knew a person with a natural love of fruits and fruit growing in his heart to be indifferent to the beauties of nature?

This county is the favored location of some of the great scenic features of the State. Its great lake, with its wonderful Mount Kineo, forms a portion of its western boundary. Its highest mountain, Katahdin, stands in majesty on its eastern border midway up the line. Its greatest river, Penobscot, rolls its flood of water across the county, and curiously enough passes by within only two miles and forty-seven rods of the upper end of Moosehead lake. Beautiful Lake Sebec, with its unique mountain background, the

most central body of water in the State, is within an hour's drive of these villages. We wish you could come here in beautiful October, and ride northward on the railroad through the towns of Abbot, Blanchard and Shirley, to Greenville. You would find scenery beautiful to behold. Then take the Canadian Pacific Railroad at the latter place and go eastward across the county, skirting the rugged and precipitous southern side of Boarstone mountain, crossing the enormous iron trestles of Wilson and Onawa, looking down into the tree tops of hundreds of acres of variegated forest and over the waters of placid lakelets, go on to Henderson junction in the town of Brownville, and up to the ore mountain and Silver lake at Katahdin Iron Works. Into Silver lake flows a rapid stream called the Gulf stream, with its tributary called the Gulch, which runs through miles of true canon, said to be one of the finest examples of real canon, on a moderate scale, this side of the Rocky mountains.

This county, after losing sixty townships to Aroostook in 1844, is seven townships wide and sixteen townships long, or 3,780 square miles in area. It would make a whole state like Delaware, another the size of Rhode Island, and have townships enough left to make an ordinary sized county as counties average. Only about twenty townships, however, of this great area is settled, the rest is wilderness. These are some of the physical features of our county you would enjoy seeing in October, which month is also, in this region, the month for gathering and storing the apple, and brings us back to the primary object of this meeting.

Fruit growing is a pleasant and remunerative business, and the use of a succession of fruits in the family is not only agreeable but decidedly beneficial and healthful.

Only exceeded by the pleasure derived from the actual work in caring for the trees of the apple orchard, is that to be had in viewing the fruition of that labor at the exhibitions of the fruit itself, when the long tables are covered with red, yellow and multicolored apples.

I have visited exhibitions of fruit of the American Pomological Society at Boston and at Philadelphia, and World's Fairs at Philadelphia and Chicago, but I have never seen finer displays of apples than I have seen in years past at the exhibitions of this Society.

I want to congratulate the Society on having attained its majority. It has safely passed the perils of infancy and youth, the often

awkward and sometimes erratic period of adolescence and may now continue its good work with the conscious vigor of young manhood. You are now twenty-one years old.

You will doubtless still continue to receive the fostering care and aid of the State—a State of which we are all proud, and have reason to be, and which now contains 700,000 of as well-governed, law-abiding, thrifty, prosperous and happy people as the sun shines on.

I believe that this Society and its co-laborer, the Board of Agriculture, are in the way of being very helpful to the cause of fruit growing and farming in this State, and in the name of the people of these twin-villages and in behalf of our three agricultural Societies, Eastern, Western and Central, I extend to you a cordial welcome to this county, hoping that the leaven of your enthusiasm may be an excitant to our comparative luke-warmness and indifference.

The response to the address of welcome was given by Secretary Knowlton, who briefly gave an outline of the work being done by the Society, and in behalf of the visitors present, thanked the speaker for his cordial welcome, expressing in closing the hope that the present meeting might prove the most profitable ever held by the Society.

THE PRESIDENT'S ANNUAL ADDRESS.

By JOHN W. TRUE of New Gloucester.

Ladies and Gentlemen :

Another year has rolled round since our last winter meeting, and the tenth anniversary of my first meeting with the Maine State Pomological Society has arrived. I little thought, then, that such an interest would be created in this subject of "Fruit Culture" as to induce me to attend every meeting of the Society for the next ten years. And I can see that the knowledge and interest which I have gained has shown itself in my surroundings. I feel that this is one of the missions of this society to awaken interest, as well as to teach the people of this good old State of Maine the art of raising more and better fruit, and to surround their homes with more of the beauties of nature, in the way of plants and flowers, as well as the luxuries in the form of an abundance of the small fruits for

family use. And that brings us to the question, how can we increase our membership? Every member that is added to our society is, to a certain extent, an example to others in his neighborhood, as it is almost sure to result in better practices, pleasanter surroundings, and a happier home. This question has been called up before, but we wish it might have careful consideration, and see if some inducement cannot be held out to the fruit growers and farmers throughout the State to become members of our society, and surely by gaining members we should gain some strength. Let us all take a hand in this, and see if we cannot bring it to pass.

We would like to call attention to the fact that at all our meetings and exhibitions a goodly number of farmers and fruit growers are anxious to learn the name of some variety of apples, pears or plums. Quite often some one has been on hand who was well fitted to give the desired information, and they have always been kept busy during their stay with us. It would seem to us that the subject calls for more attention, and that funds should be appropriated, to have some good authority on all the fruits in which we are interested in attendance at all our exhibitions and meetings where fruit is displayed. I apprehend that our exhibition in the line of plums is to increase wonderfully within the next ten years, and with the best of care the naming of them will be very much mixed and uncertain; so that it will require a man that is fully up with the times in all the lines of fruit culture. The services of such a person will cost something, but I think it would give great satisfaction, not only to our exhibitors and members, but to many of our visitors who come to look over our exhibition, bringing with them an apple or a pear for a name.

The increase of our State stipend that was asked for from our last legislature, and cheerfully granted, but got "side-tracked" before it got through the tortuous road all bills are obliged to travel to get fully through our lawmakers' hands, should be carefully looked after some time during the present session, and see if we cannot get what it was voted for this society to have for the past two years. You will see by the last report of our Treasurer that the sum of \$420.27 was due the permanent fund—in other words, that amount has been drawn or borrowed from the fund. I wish to urge a discussion of that subject upon our members present at this meeting, to see if some way cannot be devised to restore this amount to the permanent fund.

The "small fruit" industry has taken on such proportions, both for the family and for market, that with our increased funds I should like to see our executive committee hold a meeting the first of July, at some point where this branch of farming receives a good degree of attention, and offer a short list of premiums for strawberries, and at the same time have a good speaker present, thoroughly informed on the subject, and as time goes on I would like to see other days set apart for other fruits, but we must be content with one thing at a time.

I would like to call attention to one of the many points for which our retiring President has labored, and that is to continually press upon the attention of all fruit growers and farmers the fact that they cannot afford to buy their stock of plants and trees of irresponsible traveling tree peddlers. If you want but few trees or plants, find others that would like a few and put your orders together, send to some reliable dealer for prices, then forward the money—it will not take half so much—and you will get stock true to name and of good quality. Do not let the peddler who knows absolutely nothing about fruit growing tell you what you want and persuade you to buy it, unless you have money to give away, and you want to give it to this particular person, and in that case I would recommend that you give him the money and let him keep the stock, as I am persuaded that you will get more satisfaction, in the end, out of the transaction. Especially will that be the case, I am afraid, with the comparatively new Japan plums, where the utmost care must be taken, or confusion in names and loss by worthless varieties will be the result.

The subject of spraying, which has engaged the attention of some of our fruit growers for the past two or three years, is becoming a necessity for all those who propose to make apple growing profitable, as the "apple scab" has apparently come to stay, and its destructive propensity has shown itself to a greater extent the past year than ever before and the importance of giving the subject careful attention should be impressed on our Experiment Station. They have performed good work for us in the past, but they must still keep everlastingly at it, not only in finding a sure and practical remedy for the "apple scab," but for the little fellow called the *Tripetæa pomonella* or apple maggot, although the ravages of this pest have not been so bad in our section of the State as in years past, still we want to conquer it if possible.

I have given you these few suggestions hoping that their consideration will be helpful to the fruit growers of our State and beneficial to our Society.

The committee to whom the President's Address was referred before the close of the meeting made the following report which was accepted :

We would call your attention to that part of the address in reference to the engaging an expert to attend and assist us at our annual exhibition, and also for the necessity of returning the money to the permanent fund which is now needed by the Society, as soon as practicable. We endorse the idea of holding a summer meeting for the exhibition of strawberries and with the increasing interest in the culture of small fruits we think such an exhibition could be made both interesting and profitable.

THE YOUNG ORCHARD.

By CHARLES E. WHEELER, Chesterville.

We consider this subject to see if we can have better returns for our labors in the years to come. None of us are so well advanced but some good may come to us from a consideration of the subject. One thing must be with us all the time, "What is worth doing at all is worth doing well," but this must be in such a way that whatever is produced shall be at the lowest cost possible.

Let us consider a young orchard, such as may be considered a commercial orchard, the fruit of which is to be shipped to some market, either as choice apples or canned and evaporated apples. Let us select our soil, our trees, and the kinds, looking after the young things for a few years ; and by that time others can go and take care of the fruit. Go into any portion of the State, and notwithstanding the conditions, you will find fine orchards. But the speaker's ideal place to plant a young orchard would be upon high ground, with natural drainage, sloping to the south or southeast. Under these circumstances we should expect to find good strong, moist soil upon a granite foundation that would furnish fine drainage. There are many farms in Maine thus located, and so long as they can be purchased at low prices, it is doubtful if it will pay to select such land as will require a great expenditure of time and cash to drain.

Having made our selection of the farm, the next consideration is, where shall we place our trees? We are going to build up an orchard, and it will require the best field. If you can turn over the sod, and keep it so for the first few years, using the cultivator often, giving the young trees as good care as your neighbor does his corn, you may at least expect as good returns. If you find it best not to do this, stake your field off two rods each way, thus securing a straight row. Dig around each stake a hole from two to four feet across, down through the soil, leaving the bottom well stirred up with the spade. Two persons can do the work at much better advantage than one. The turf is cut in a circle around the stake, quartered and removed to one side; the soil is always placed upon the upper side, as it can be worked into the hole easier. Take home-grown trees and remove them to their new quarters at once. Two-year-old trees, and even older, should be taken. We cut all roots from the size of a pencil up; all damaged ones are removed, and if any have been wrenched off, we make a clean-cut wound of it. The rootlets take up the plant food, and with a good clean cut the fine roots start out very quickly, and begin their labors. The long or large roots are of but little worth. Do not be afraid of using the knife in pruning the top.

In transplanting a tree, one should hold it in place while the other works in the first few hoes' full of the fine soil. Place the tree an inch or two deeper than it stood in the row, and lean it towards the south, so as to prevent sun scald. In filling in the soil, place the roots much the same as they were when the tree was in the nursery row; tread the earth down solid, for roots do not grow or thrive on air. Fertilizers should be in the shape of fine ground bone and muriate of potash—300 lbs. of the former, to 100 lbs. of the latter, well mixed. Never use any form of barn manure; just so sure as you do, it will burn the roots, and your tree will receive a bad check. The last few shovels of the soil should remain; the turfs turned upside down and well tramped down, then the remaining dirt cleaned up without tramping. Place mulching around the tree; it keeps the soil damp, loose and fresh, free from weeds and grass, unlocking the plant food through its action much the same as we do with the cultivator. Where the trees are exposed to high winds, stake them up. Trees near fences where the snow may drift, should be well protected by stakes the first few years, and should be carefully looked after in the early spring, when the crust is forming and the snow settling down.

If the trees are seedlings, do not graft till they have reached such size that the cleft graft can be introduced. This is the best form for the Baldwins. Some trees do not shape well until you remove the tops. Good barn manures may be used in small amounts for fertilizer after the first year. Leaves, leaf mould, muck, and other material lying around on many farms could be used. Straw, leaves, brakes and water grasses used as bedding under horses, and worked over by the pig, make one of the very best and cheapest of plant foods. If we touch upon varieties, the Baldwin, Hubbardston, Spy, and Ben Davis, make a very full list, unless we may wish for the Fall Harvey, which sells for a good price, or in an over abundant year is one of the best for evaporating or canning. Of these kinds, let the Baldwin and Spy form eight-tenths of your orchard.

The borers come first in the list of hurtful insects, and they are very persistent. The trees should be looked over in May and October. No better way is known of ridding the orchard of these pests than to dig the imps out with penknife and wire. The knife is all that is required the first year, but some will be overlooked, and then a wire is needed. For mice, poisoned barley scattered along the stone walls is good feed. Laths cut in two and placed around the tree, making a complete box, fastened with No 32 steel wire, is the very best shield. The bark louse infests many Maine grown trees. Hard wood ashes thrown into the tree on a misty day, just prior to its leaving out, will destroy them, and is an easy remedy. We are spraying some for the coddling moth, and are very well satisfied with the result.

SOME PLANT DISEASES AND THEIR REMEDIES.

Professor W. M. MUNSON, State College, Orono.

All known plants are divided into two great classes—Phænogams or flowering plants; and Cryptogams or non-flowering plants. The former are characterized by the production of flowers and seeds; and as a rule are provided with a green coloring matter—chlorophyll—through the agency of which the inorganic constituents of the soil, carried upward by the movement of the sap, are combined with the carbon dioxide of the air into organic compounds—starch, sugars, oils, etc., essential to plant life and growth.

All cryptogams are without flowers or seeds, but many of them, as ferns, mosses, sea-weeds, etc., contain the chlorophyll necessary to the assimilation of inorganic matter. One important class, however—the fungi—are entirely without this agent, and necessarily depend for subsistence on some store of organic material, either animal or vegetable. In other words, a fungus is a plant; but possessing no green coloring matter, it cannot utilize inorganic matter like ordinary plants, and must live on materials already prepared by other plants. This material may be found either in living or dead plants or animals.

That part of the fungus corresponding to the root stem and leaves of other plants—the *mycelium*—consists of very slender thread-like tubes which may grow singly, or may form intricate masses, the threads being more or less grown together. As compared with the fruiting portion, the mycelium is very small and insignificant in appearance. This may readily be seen by comparing the edible part of the ordinary mushroom with the mold-like “spawn.” The part which we eat is really the fruit-bearing part of the fungus, and the *spores* which take the place of the seeds of the flowering plants are borne on the gills under the cap. These spores which are exceedingly small and are seen as a black dust when fully mature. The same relation between fruit and mycelium holds with most of the fungi with which we are concerned.

I have said that a fungus must live on organic matter, either living or dead. Fungi are thus readily divided into two distinct classes: *Parasites*, those obtaining their nourishment from living plants or animals; and *saprophytes* which feed wholly on dead tissue. It should be added, however, that some fungi belong to

both classes—being parasitic at first and continuing to live after the host has been killed. It is with the first class—parasitic fungi—that we are especially interested at this time.

Within the past fifteen years the number of plant diseases has increased with alarming rapidity until there is scarcely a fruit or vegetable which does not have its specific fungous enemies.

What is the reason for this increase? First of all, perhaps, is increased knowledge of the causes of many failures. Formerly crops were injured or destroyed and the fact was accepted without attempt at an explanation, or the blame was thrown on the moon or the weather. Now the mycologist is called and with his improved means of study, he is soon able to tell us the exact cause and frequently the whole life history of the pest.

Again, many of the parasitic fungi best known at the present time originated on wild plants and on such were not considered of special importance. When, however, some closely related plant in garden or orchard was attacked, attention was at once arrested and it was said a new disease had appeared. (*e g.* “black knot” of plum and cherry, and “orange rust” of blackberry.)

There are various ways in which parasitic fungi injure their host plants; and no part of the plant is exempt from attack, roots, stems, leaves, flowers, and fruit, are all in danger. By far the most common and important injury caused by the parasites is in the appropriation of nourishment belonging to the host. This results in the falling or deformity of fruit or leaves, according as the attack is early or later in the season.

Again, when the fungus grows upon the leaves and stems of the host it not only reduces the amount of the food supply but it often prevents assimilation or the formation of a new supply, thus reducing the vitality of the plant affected.

It is quite probable that the intensive culture practiced at the present may have weakened the constitution of many of our fruits and vegetables, rendering them less able to resist the attack. The tendency of modern methods is to cause plants to vary in certain directions most valuable to man rather than to retain those characteristics best for the life and health of the plant. If, then, man would use to the best advantage this tendency to vary in certain directions, he must provide the best environment, and must so far as possible, prevent the attacks of insect and fungous enemies.

I have said we must if possible *prevent* attacks of fungous enemies, for cure is usually out of the question. The fact that the

mycelium of the fungus is usually beneath the surface of the plant affected makes "remedies" ineffective. There are a few instances—as some of the surface mildews—which are exceptions and where remedies are effective; but such are rare.

In the treatment of fungous diseases, two distinct lines should be followed: 1st, hygienic; 2nd, preventive. There are definite laws of health for plants as well as for animals, and in either case neglect of those laws invites disease.

Common sense would demand first of all that the trees or other plants be in good vigorous condition. Healthy vigorous plants are always less susceptible to attack either of insects or of fungi than are those which are weakly or stunted.

Next remove all possible sources of infection, such as wild plants subject to the same disease, leaves and decaying fruit which are affected and which form a very common and the most important source of trouble. The wild plum and cherry trees are an ever present menace to plum growing in Maine because they form a well nigh indestructible source of infection from black knot. The wild blackberries in any locality often harbor the orange rust to such an extent as to render impossible the cultivation of the choicer varieties. Diseased fruit and leaves effectually harbor parasitic fungi during the winter, and on the approach of warm weather the spores develop rapidly and are at once liable to be carried to the opening buds by the first breeze that stirs. No preventive measures should be expected to be effectual if such sources of infection are left undisturbed. It is not enough to feed diseased fruit to the hogs or to place it on the compost heap, but it should be carefully gathered and burned.

The mycelium of some fungi lives from one year to another in the branches or canes of affected host plants. This is noticeably true of black-knot, of the twig-blight and of raspberry anthracnose. In such cases the first treatment demanded is the removal and burning of all affected canes or branches. I would again emphasize the importance of burning. A diseased branch left on the ground is just as much a menace to remaining plants as if it had not been cut. In some instances, as in case of the dreaded "black-knot," it is often thought advisable after removing a diseased branch to make an application of some material to the wound in the hope of destroying any possible remaining portion of the mycelium.

Dark moist weather, and damp shady locations are always conducive to the development of fungous diseases. Hence open train-

ing, and thorough drainage, both of soil and atmosphere are always advisable.

Improved environment and the removal of infection will not always protect our plants from disease. The advance in the knowledge of the nature and value of fungicides and of methods of application, has been even more rapid than the knowledge of the fungi themselves.

For several years sulphur in some form has been used to a greater or less extent. Powdered sulphur is one of the most valuable fungicides we know for the treatment of surface mildews and of certain "blights." It has been found that the best results are obtained from the use of sulphur if the application is made on a dry day when the sun is shining—why, is not known. For green house work we have found the "liver of sulphur" (sulphide of potassium) very satisfactory. For most plants dissolve one ounce liver of sulphur in two gallons of water.

At the present time, some of the salts of copper are regarded as the most valuable aids in dealing with fungous diseases. The sulphate of copper ("blue stone") is the cheapest of the salts and either alone, on dormant plants, or in combination with lime in the form of "Bordeaux mixture," is usually considered the most satisfactory.

A word concerning the preparation of "Bordeaux mixture" may not be out of place in this connection. As usually prepared the mixture consists of six pounds copper sulphate, four pounds quick lime and fifty gallons water. The copper salt is dissolved in a wooden tub, the lime slaked in a separate vessel and when ready for use the two are mixed and diluted as above,—care being used that the lime is strained through a cheese cloth or a fine wire screen, to prevent clogging the nozzle.

The copper sulphate will dissolve much more quickly if placed in hot water, and it is found, too, that the action is greatly hastened by suspending the salt in a coarse bag instead of placing it in the bottom of the vessel and pouring water over it.

Bordeaux mixture should be used as soon as prepared, as it soon deteriorates in value; but in spraying large orchards much time may be saved by preparing stock solutions of both the lime and the copper salt as suggested by Waite* and Swingle† of the U. S. Department of Agriculture.

*Journal Mycology, Vol. VII, p. 336.

†Ibid, p. 365.

If we take a barrel holding just fifty gallons, dissolve fifty pounds of copper sulphate in this barrel and then fill with water, we shall have a solution each gallon of which contains one pound of the copper salt.

(It can readily be seen that the amount of water displaced by fifty pounds of copper sulphate is of considerable importance, hence the water should be brought to the required mark after dissolving the copper.)

In the same manner a stock preparation of lime may be employed as suggested by Mr. Swingle: "A barrel is taken, the capacity of which has previously been carefully determined, and twice as many pounds of stone lime are placed in it as it holds gallons. The lime is then slaked. If the slaking has been properly done the milk of lime will fill two-thirds to three-fourths of the space; then water is added to bring the milk of lime up to the mark. After stirring thoroughly a gallon will contain the equivalent of two pounds of fresh lime." It is of course very important that the mixture be stirred thoroughly each time a quantity is dipped out, as a gallon of clear lime water will contain only about one-sixth ounce of lime instead of two pounds.

Having the stock solutions, as described, it is a very simple matter when spraying to take six gallons of the copper sulphate solution, two gallons of the milk of lime and dilute to fifty gallons. The mixture should be very thoroughly stirred with a paddle before using.

The stock solutions may be kept for several days or even weeks if carefully covered and in a cool moist place.

It has been found by some experimenters that the addition of soap to the Bordeaux mixture greatly increases its wetting properties and consequently makes it very much better for spraying such plants as have a waxy coating on leaves or fruit. The quantity of soap suggested is about one-half of the total weight of lime and copper sulphate used, or enough to make the mixture foam well when thoroughly stirred. In the fifty gallons of mixture described we would use about five pounds of soap. The soap is best prepared for use by shaving in thin slices and dissolving in hot water. The very cheapest soaps are as good for this purpose as are the more expensive ones.

SOME PRACTICAL APPLICATIONS.

1. *Apple Scab.*

I doubt not most of you are familiar with the dark colored spots or "scabs" which appear on some varieties of apples—notably Fameuse, Maiden's Blush, and Golden Pippin. These spots represent but one stage in the life history of one of the parasitic fungi already referred to, (*Fusicladium dendriticum*.)

The disease appears on the leaves, usually on the under side, as brownish or olive colored spots. These spots if numerous run together, become blackish in color and finally the leaf tissue dies. In cool wet weather the fungus often spreads very rapidly and, attacking the foliage and young fruit early in the season, causes almost total loss of crop and greatly weakens the trees. The leaves are both lungs and stomach of the plant, and any check to these organs must seriously affect the vitality of the tree. If the attack is late, after the season's growth is completed, no special damage is done except to injure the fruit.

While the spots if recently developed do not directly injure an apple for immediate use, they greatly affect its appearance and will continue to grow and spread, and the fruit will decay much sooner than if not affected. On the other hand, fruit attacked early in the season will either fall prematurely, or will be deformed and cracked, the parasite utilizing all of the materials for growth on the side affected.

For several years I have conducted careful experiments with the hope of arriving at definite conclusions concerning the use of certain chemicals as preventives of the disease in question. As a result of this work I feel safe in asserting that we may to a large extent control the attacks of the apple scab by the use of the Bordeaux mixture already described.

In almost every instance where comparisons have been made there has been a marked difference in favor of the sprayed trees—the gain in the per cent of fruit free from scab amounting, in many cases, to more than half of the crop.

The accompanying table shows very clearly the results obtained last year.

Treatment.	Number fruits examined.	Free from scab.	Slightly scabbed.	Badly scabbed.	Per cent free.
Check (not sprayed).....	552	212	326	14	38.3
Bordeaux Mixture	546	436	102	7	79.9

Although the season was very dry and the per cent of perfect fruit on the unsprayed trees was much higher than usual, the sprayed trees showed an average increase of nearly forty-two per cent.

During the season just closed the advantage of spraying was even more marked. The season was very wet and the disease appeared soon after the fruit was formed. As a result the crop was a *total failure* on trees not sprayed, while on adjacent trees which were treated with Bordeaux mixture there was a good average crop relatively free from disease.

Now it is not claimed that we know all about the use of Bordeaux mixture, for there are problems of a most important nature concerning the preparation and application of the material, which are still unsolved. At the present time, I may sum up our knowledge of the treatment for apple scab as follows :

(1) Spray the trees early in the season, before the buds expand, with a solution of copper sulphate—one pound to fifteen gallons water.

(2) Early in May, before the blossoms open, spray with Bordeaux mixture.

(3) As soon as the fruit "sets" spray a second time with Bordeaux mixture. (It is well at this time to add Paris green at the rate of one pound to two hundred and fifty gallons of the mixture to destroy the larvæ of the codling moth.)

(4) Make at least two subsequent applications of Bordeaux mixture at intervals of about three weeks.

2. Pear Scab.

A fungus closely related to the one just mentioned is the Pear scab (*Fusicladium pyrinum*.) This fungus attacks the pear in the same manner as does the apple scab its host, and indeed the resemblance between the two species is as close that they are often considered identical. It is because of this disease that the Flemish

Beauty has almost been superseded by less valuable sorts in many localities.

Unfortunately there has been no opportunity for personal investigation of this disease at our experiment station, since there are no bearing trees available. However, from the marked success attending the work of other experimenters I am convinced that the treatment suggested for apple scab will be satisfactory in this case as well. Professor Beach of the experiment station at Geneva, N. Y., as a result of some work conducted on a commercial scale, found that while the average cost of spraying each tree five times during the season was about forty-eight cents, the increase in the commercial value of the fruit actually sold was about \$5. In other words, while the average receipts from the Seckel trees which were sprayed were \$5.70 per tree, the average receipts from the unsprayed trees were but ninety-three cents. White Doyenne gave even better results.

3. *Black-Knot.*

To every plum grower in the land the very name "black-knot" suggests an eternal struggle with the powers of darkness, and it is unnecessary to speak of the outward appearance of the disease.

Many have supposed the "knots" or wart-like excrescences to be caused by insects, for frequently on cutting open one of the warts larvæ will be found inside. But in the first place insects are not always present—never in the early stages of growth; and in the second place no gall producing insects have ever been found. There can no longer be any doubt that the trouble is due to a parasitic fungus—*Plowrightia morbosa*.

Without entering into details, we may briefly trace the life history of the fungus. It is generally conceded that the knots first make their appearance in the fall, when they may be seen as slight swellings of the bark along the branches. But little growth is made till the following spring when the increase in size is very rapid. This rapid growth is specially noticeable about the first to the middle of June when the bark which at first covers the diseased tissue is burst open and the knot presents a dark green velvety surface due to the immense number of spore-bearing stalks (conidia) which are produced at this time.

Later in the season the surface of the knot becomes rough and covered with little pimples which are the receptacles of another kind

of spores (stylospores.) The fungus remains alive in the knot till the following spring when it dies leaving simply a spongy mass of dead tissue, which may as before remarked afford a harbor for insects.

The best remedy for black-knot is "a good sharp knife and courage to use it." Many successful growers favor an application of kerosene to the wound after removing a "knot." Such an application should be made with a small brush, and care must be used that the oil does not run down on the bark. It is well to add a little pigment, as red lead, to the kerosene to better indicate where work has been performed.

4. Plum-Rot or "*Mummied Fruit*."

Plums, cherries and peaches are frequently attacked by a "rot" which may destroy the entire product just before ripening. This rot (*Monilia fructigena*) appears on the surface of diseased fruits in the form of a grayish white mould. This mold consists mostly of little tufts of spores, the mycelium being among and through the tissues of the fruit. On a single diseased plum may be produced thousands of the little spores, each capable of infecting another fruit.

The rapidity with which the disease may spread in warm, moist weather is almost incredible. In two days, under favorable conditions, a spore may germinate and grow sufficiently to produce more spores.

The fruit which is affected often dries up and remains on the tree; and the fungus lives over winter in this "mummied fruit" or in the twigs which are sometimes affected.

The treatment of this disease is that already suggested in general terms, viz: collect and burn all affected fruit; spray the trees early in the season with the copper sulphate solution and after the fruit has set spray once with Bordeaux mixture.

A second spraying with Bordeaux mixture is hardly advisable because of injury to the appearance of the fruit; but if the season is very favorable to the growth of fungi, it is well to make an application of modified *eau celeste*. This material is prepared as follows: Dissolve two pounds sulphate of copper in two gallons of hot water. In another vessel dissolve two and one-half pounds carbonate of soda (sal soda); mix the two solutions and when ready for use add one and one-half pints strong ammonia water

and dilute the whole to thirty-five gallons. It is well to make the stock solution at least one day before it is wanted for use, and to mix a considerable quantity, merely observing the proportions suggested.

Conclusion of the Whole Matter.

I should like to speak of several mildews and blights and rusts which are of special importance to the fruit grower ; but fear I have already wearied you. I cannot close, however, without urging upon every grower here the importance of the conflict in which we are engaged. We are living in a day when there is sharp competition in all lines of horticultural work, and the successful man must fight if he would win. The surest financial returns in fruit growing lie in the production of the *best*. Fancy fruits for fancy markets is the watchword among progressive men today.

The time has passed when we could simply plant and cultivate and harvest. We must see that the plants are given suitable environment and are protected from attack. If our trees are hungry we must feed them ; if thirsty, give them drink ; if diseased, ascertain the cause and apply remedies.

In all of the work science and practice must go hand in hand. At the college we shall continue to study causes, effects and remedies. It remains for the fruit growers of the State to apply the knowledge gained to individual cases.

APPLE AND PEAR CULTURE.

By O. B. HADWEN, Worcester, Mass.

Our starting point in pomology is directly traced to the early settlers and although for nearly two centuries progress and advancement were comparatively slow it was none the less firmly rooted. The science, practice, and the art of pomology had barely dawned in the beginning of the present century. During the last fifty years its advance has been truly marvelous.

At present no owner of lands seems to regard himself as a true American of the higher type who neglects to plant fruit trees.

But I do not propose to occupy your time with theories in fruit culture for the scope is so broad I can embrace but few of its phases of a more practical nature.

Fruit trees serve a three fold purpose of supplying food, ornament and shade, either of these would repay their cultivation and care. In their variety fruits succeed fruits week after week, month after month, and with proper facilities for preserving and keeping we may have fruit the year round.

It rarely happens that one person can successfully cultivate many kinds of fruit; specialties are found more conducive, and better suited to the conditions and taste of each individual.

The orchardist who succeeds well with his trees in grass land of great depth and fertility, should not recommend or prescribe grass for orchards in thin and impoverished soil. The man who has a shallow soil and has injured the roots of his trees with the plough, because they are near the surface of the earth, should not object to the thorough manipulation of deep soils. Therefore it is absolutely necessary for each and every grower of fruit, to diligently and patiently search out and study his situation and surroundings, if he desires the best results to reward his labor.

Let me call your attention to a few of the essential conditions necessary for producing good orchards and fruit, where both climate and soil are favorable. In selecting trees we would choose those from two to four years from the bud with straight stems and shapely tops with good fibrous roots, they should be carefully planted out in deep soil in generous holes dug for the purpose, and receive liberal treatment for the first ten years. The orchard should be so situated that the trees may receive the full benefit of

the sun's rays, therefore thick or crowded planting is not desirable. A sheltered situation should also be selected.

Orchards exposed to bleak, and especially to drying winds, at the time they are in blossom, are very liable to be injured, the winds drying and destroying the adhesive qualities of the pollen of the flower, and wafting it from and beyond the uses which nature intended it to serve.

Thus shelter is important in the early stages of fruit growth, as it is later; at maturity, it is as important to the orchard as is good cultivation, and without shelter, crops of fruit are more uncertain, and many orchards failures.

Shelter from winds is however easily obtained; by planting belts of trees upon land surrounding the orchard, and perhaps no better tree can be found for that purpose than the European larch, in this portion of the country.

If set at the same time of the orchard complete shelter even before the trees come in bearing; and even if neglected at that time, they can be planted out afterward, and in six or eight years will be sufficiently grown to afford protection.

There are other trees, which also are desirable for protection to the orchard. The white pine, the Norway spruce, the hemlock, these trees are of more spreading habit than the larch requiring more room; but it is always desirable and commendable to add to the beauty of the landscape; a variety of trees, if judiciously planted, having a regard for appearances, will be both ornamental and useful.

But many farmers and especially those of the older school, have strong objections to trees, and cherish the dogma that they injure grass and grain crops, more than do the winds, at the same time forgetting all about the shelter and advantage they afford all other crops.

But there are those that love to believe that true economy and true taste are accordant, and that the graces as well as the profits of life may be kept alive and in view by the practical aims of all farmers when well directed.

In considering the cultivation of the apple we have therefore concluded that due economy requires the orchard, and trees growing out of the orchard, as far as may be possible, should be well sheltered from fierce winds from any quarter, and especially from the drying winds blowing from the north or southwest, to insure good crops. If large annual crops of fair fruit are wanted no

other crops should be taken from the ground unless enriched. But if the soil is deep and retentive of manure and moisture and trees are planted at least forty feet apart, other crops may be taken from the land without apparent injury to the apples, but the soil should by no means be allowed to become poor and should annually receive a dressing of suitable manure.

Experience teaches that for extensive orchards, trees planted forty feet apart is a desirable distance, the trees having space to grow shapely and affording room for other crops. It must also be remembered that the roots of trees occupy and are nourished by the lower strata of soil to a considerable extent and the tops derive sustenance from the ocean of atmosphere that surrounded them. While we would cultivate the orchard during the early growth we are satisfied that continued ploughing is not essential for the best results; in fact the keeping qualities of fruit are found to be better where fruit is grown on soil, not often ploughed, but enriched. We are unable to satisfactorily account for this, but from continued observation we are confirmed in this opinion.

In the earlier history of Pomology, in this country, the fruit grower had but few insects to contend with, but later experience proves and it is found that just in proportion as you increase the cultivation of fruit insect enemies increase.

The difficulty thus far, it would seem, is to bring the mind of the fruit grower to realize the fact that insects must be destroyed to render the business profitable. We are constantly expecting that nature will come to our aid, and with some of her forces, will all at once destroy the insects that are destructive to fruit.

But too often the grower continues to be negligent, and the insects to increase, and, with few exceptions, have it all their own way. The orchardist cannot find time to contend with so small an enemy; in fact too often does not realize that his fruit is nearly worthless until he is ready to gather and sell it. Can we complain if the insects avenge our neglect?

We have strong encouragement to make great efforts to prevent the depredation of insects, as the demand for fair fruit is always good and prices, both producer and consumer agree, should be higher for choice and well grown.

A large portion of your State lying as it does within the great fruit growing belt, is, both in climate and soil, especially favorable to the growth of the apple. Many varieties of apples have here

had their origin, that are proving valuable wherever they have been disseminated and grown.

Care is the price that must be paid for the best of all agricultural or horticultural products. And care in gathering and barreling fruit for storing and keeping is of the utmost importance. In fact how often is fruit gathered in a manner as would seem as if the chief end to be desired would be to promote decay as rapidly as possible. If apples are expected to keep well they must be picked from the trees and handled carefully.

Barrels are found the most convenient package for apples, but should be washed and thoroughly cleansed and dried before using; care should be taken that no nails protrude through the staves. The fruit should be carefully placed in the barrels and gently shaken and pressed into them as compactly as possible to prevent any motion of the fruit after the barrels are headed. Each sort should be marked and placed where the temperature is low and uniform if possible. If apples are to be stored for winter or late keeping the sooner they are placed in a cool and uniform place the better. A fruit house or cellar constructed with a view for the purpose is best, but most growers usually have to resort to their cellars.

The chief requisites for the preservation of fruits from October to May or June following are a uniform low temperature and in autumn may be obtained by giving abundant ventilation on cool nights, and be closed when the atmosphere is warm. Fruit should be maintained or kept in as nearly as possible in the condition when gathered. The gradual ripening process or the fermentation of the juices, premonitory to decay, should be checked and kept in a dormant condition, when maintained nearly at the freezing point the mellowing or ripening process in the fruit nearly ceases. Fungi and mildew, the primary cause of decay, do not germinate. Under these circumstances, the best late keeping results are promoted, thereby the prices which apples are sold differ very materially between October and June and are often as one to five, thus the growing price in the cellar is of full as much importance as the growing fruit in the orchard.

New England is also favored with a variety of soils which is found favorable to the growth of the apple. Experience also teaches that one kind of soil is not adapted to the growth of all kinds of apples. Some thrive best in a loamy soil, some in sandy, others in a gravelly or clay. Keeping these things in view, it is

plain that several varieties of apples, when planted in a single orchard, is more reliable for a crop as seasons come and go, than one variety; sometimes climatic conditions prove injurious to one or more varieties, when others in the orchard are uninjured. In the earlier times, and even now, there were many theories not well founded, relating to orcharding. Of late years growers are changing their views, and the majority of orchardists endeavor to understand the reason of their practice, under these conditions the march of progress has been rapid, and success is in proper ratio to the care the orchard receives. I have for some years given more especial attention to the growing of apples than to other fruits. In the autumn of 1843, I planted the apple seeds from which the trees in my orchard of twenty acres are planted, budded the trees, and planted them, and have watched their progress of growth and bearing ever since. The trees now are at maturity and bear full crops, and I have received a vast amount of pleasure and a reasonable amount of profit from my husbandry.

The pear is a fruit that the average American is especially fond of, and within the past half century has given a great amount of thought and labor to its cultivation.

Not only the orchardist, but every one owning a piece of ground, however small, does not feel quite satisfied without a few pear trees. The pear has drawn out perhaps more enthusiasm than any other fruit which we have cultivated. There are now over 3,000 sorts that are recorded and described, enough perhaps for the most ardent cultivator. This number is perhaps well enough for those whose money, time and taste permit, but the orchardist, or those who grow pears for market, or home use, a dozen of the best sorts are found sufficient for the most refined and cultivated taste, and requiring far less care. The public at large have never become able to know or name even a dozen sorts.

By reference to Rhind's Vegetable Kingdom it will be seen that the pear tree is indigenous to the northern sections of the temperate zone, flourishing as far north as fifty-seven degrees, and it has been acclimated and grown within the boundaries of twenty-seven degrees.

In attempting to acclimate and grow the pear in a warmer climate its primitive habits should not be lost sight of, neither the change in the conditions caused by good or excessive cultivation of the pear. Very high cultivation only can produce specimens of fruit that bring the highest price in market, or receive the prizes at

exhibition. The primitive conditions of the pear are entirely changed by its present cultivation, which may ultimately prove to be one of the causes of pear tree blight. Therefore as only a grower of the pear we approach the subject of pear tree blight with considerable caution, well knowing the diverse and contrary opinions entertained by pear growers, as well as by scientific men, and the mystery hanging about the whole subject. We can only attempt to relate, what would seem by long experience, apparently to be some of the causes pointing to pear tree blight and the mystery about it which baffles both scientific and practical men.

In the cultivation of fruit of any kind it is undoubtedly true that repeated grafting upon stocks grown from seed for a long continued duration of time, has a tendency to weaken the primitive vitality of the tree.

[Mr. Hadwen recommends the following as the best twelve varieties of pears: Beurre Gifford, Clapp's Favorite, Bartlett, Sheldon, Seckel, Beurre Bosc, Beurre Hardy, Urbaniste, Beurre d'Anjou, Duchess d'Angouleme, Dana's Hovey, Lawrence.--SECRETARY]

The thousands of acres of orchards and gardens which may now be seen in New England, manifest the strongest contrast with that in former years. and for many years New England was in advance of other nations of the country in horticulture. The natural conditions which govern our soil and climate require more skill and brain in its manipulation to insure success. Special manures and fertilizers are found to be a necessity, the art of grafting and budding, with other approved modes of propagating have to be acquired and made use of; judicious pruning is one of important practice in the orchard, and thinning the fruit to promote size and good flavor, is equally necessary. It would seem, if we may judge from the new fruits of the last fifty years, there is no barrier to obtaining by hybridization fruits of any size, quality or color, if the proper knowledge is used, with a requisite amount of skill and patience, to produce almost any desired size or quality, together with fine aroma and brilliant coloring. Science and practice have revealed these possibilities which only awaits the skilled cultivator to demonstrate in all the lines of fruit growing.

As time goes on, with the vast increase of population sure to come, increasing the demand for remunerative industries, and the increased consumption of fruits, habit and custom will demand, with an educated taste, these conditions will require increased area

of orchards and gardens, which must become one of the foremost agricultural pursuits in our New England States, situated as we are midway between the equator and the north pole. Lands that are now considered only fit for pasturage or wood lands, steep and uneven, too rocky to plough, will in time be planted to orchards of apples. We will acquire the skill to grow good trees that will bear good fruit without cultivating with the plough; other methods of preparing land will be acquired, less stirring the soil, but liberal dressing will be in order. If New England can grow better flavored apples than other sections, why not avail ourselves of this advantage, as Florida does with the orange, California with the grape and stone fruits, Delaware with peaches, as each section of country has its natural aptitude for its specialties.

DISCUSSION.

Ques. What is the best method of applying dressing and the best kind of dressing?

Ans. Every grower has got to adapt himself to the circumstances and conditions that surround him. He would make no mistake in applying any manure. If he wants to do his best perhaps he would apply a variety. It would be well to apply stable manure; it would also be well to apply unleached ashes and fine ground bones; but be sure to make an annual application if you want your fruit to bring the highest price in the market and your trees to have a healthy and vigorous growth. If you expect to get a good crop of apples or grapes on an improper soil you will be sure to be disappointed. The only way for a man to get the most out of his fruit culture is by liberal treatment.

Ques. Would you recommend the keeping of sheep in an orchard?

Ans. I have tried that experiment. Some ten years ago I fenced off about an acre and a half of my orchard, and bought some sheep and put them in. I had heard that they were good to eat apples and destroy the insects. Experience teaches that while they gather their sustenance from the ground and distribute their droppings, thus benefiting the trees, they do not eat the apples. The sheep will take a bite out of an apple and leave the remainder, especially where apples are plenty. I should rather run the risk of swine for the benefit of an orchard than sheep. Still I should not hesitate to put sheep into an orchard and it would probably be

beneficial in the long run ; but if you expect they are going to eat the apples you will be disappointed.

Ques. Some people in applying dressing to trees put a larger amount near the tree than at a little distance from it. What is your opinion about that?

Ans. My practice is to spread the dressing as far as the limbs extend when dressing the apple tree only ; but I like to dress the whole ground. Roots have a peculiar faculty of finding their food. It is wonderful how much of a kind of root knowledge they possess. I have seen an instance where a block of trees were planted five feet apart, and the roots had started to grow in all directions. Outside of the block, on one side, was a bed of rhubarb made very rich. After the roots of the row of trees next the rhubarb had started to grow in the opposite direction they stopped, turned and went towards the rhubarb, thus showing that roots do know something.

There is no kind of trees but do better by liberal treatment, especially ornamental trees. No farmer is really up to his business who neglects to plant ornamental trees. I have some ornamental trees which get a half cartload of manure every autumn, and the foliage is wonderful. Trees that are enriched show a very marked difference in the foliage. I did not find that out until, perhaps a dozen or fifteen years ago. I went to the grounds of Mr. Hunnewell, who perhaps has the finest ornamental trees on this continent, and I was astonished to see how different his foliage looked from mine ; but when I came to lift the limbs and look underneath them I saw they were very liberally treated. I went right home and commenced the same process, and I am surprised to see the difference in my trees which the liberal treatment produced.

Ques. What would you say in regard to the protection of orchards? My experience and observation has shown that some of the very best orchards have no protection whatever, but an exposed location. Of course this would allow of the apples being blown off, but most certainly those orchards did the best in our locality.

Ans. The object of protection is to keep the fruit on the trees. Trees will thrive without protection, but you do not want the fruit blown off. It is a little discouraging to have fruit blown from the tree and become unmerchantable when you want to get full price for it ; consequently I think it is well worth while to protect your trees.

Ques. In picking apples would you recommend, instead of having your picker drop his small apples on the ground and put the others into a basket and empty them into a barrel, that he should have a sorting box in the tree, and let five or six men pick apples into baskets as they would happen to, and then one man take his sorting box and sort them all out?

Ans. That would depend somewhat on how the man was situated. I am situated near a large market, and after some experience have concluded that the better way for me is to have the men drop the unmerchantable fruit upon the ground. And each man in emptying his basket is instructed to remove the stems and leaves. It is well to have a little piece of old carpeting in the basket for apples are very sensitive to injury, and if you want the best results you must take the best care of them.

Ques. What varieties do you depend upon?

Ans. The Baldwin is the great apple for the million. You can sell more Baldwins than you can any other variety of winter apples, and so far as I know the Baldwin to-day is the leading apple in Massachusetts. I think as time goes on there will be apples that will supercede the Baldwin, but those things take time. I have some apples that bring me a dollar a barrel more than the Baldwin, but in no great quantity. I do not suppose there has been a Baldwin put in my house for a quarter of a century; the reason is we have better apples. And people will soon learn to discriminate between the quality of apples. The Yellow Bellflower is perhaps not as profitable an apple to grow for the market as the Baldwin, but for family use at this time of the year there is scarcely any better apple. In many sections during the month of January it is one of the best apples to cook that I know of. The Baldwin lacks quality,—is not really a first class apple, but you can sell more of them than of any other kind.

Ques. To what extent is the packing of fancy fruit in crates being carried on in Massachusetts?

Ans. To no very large extent; that will do very well on a small scale, but if you have 1500 or 2000 barrels of apples and attempt to put them into crates you will have a job. The barrel is stored more easily in the cellar, also. Still I know of one very excellent fruit grower in Weare who puts his apples into crates. He has an apple called the Granite Beauty, which is a first class apple and brings a good price. If a person has plenty of time to attend to this, perhaps it is all right; but with a large quantity of apples you cannot bother with crates.

PROGRESS OF ORCHARDING AND FRUIT CULTURE IN
PISCATAQUIS COUNTY.

By CALVIN CHAMBERLAIN, Foxcroft.

I propose to tell you some things about orchards; for at one time Dr. Holmes and I and a few other fellows knew a great deal about them; but I shall tell you about some other things first.

I came to this Piscataquis county in October, 1810. I came to help my father make a farm, which he had begun to do alone. I came too late in the season to help him any that year. I soon learned that men did not work at making farms all the year. They did something else a part of the time. I had a good deal to do before I had learned how to work all day with my father. I guess I was pretty busy the first year I was here.

The next summer, 1812, my father cut ten acres of the trees on the hillside south from the house. There were many kinds of trees, many large hemlock and spruce. One windy day in September my father set fire along the north side at the bottom of the hill, and the fire went up the hill so quick, that the whole piece was burning at the same time.

In the summer of 1814, a woman kept a school in our neighbor's barn only a quarter mile away. It was not a good place for a school. When the weather was not good the door was shut and all the light came through the cracks between the boards. This place then had a name. I learned at home and at school to say that we lived at Foxcroft, County of Hancock, and Commonwealth of Massachusetts, and Mr. Strong was governor. One man had a log house with two rooms. The school was kept in one of the rooms in the winter. Some large boys and girls went to school then. The trees were all the way from our house over there. A road was cut for a sled.

Our father had a pair of oxen that liked to take us over there on the sled and they would do it pretty quick when the road was good. It was not more than a mile. The large boys and girls at that school had all moved here from Oxford county. A log school-house was built after that. The walls were laid up full six feet high. A stone chimney was in one end, and near the other end were two windows of nine lights of 7x9 glass. For thorough ventilation no modern architecture

has improved upon that structure. There was no ceiling or floor overhead, and no care for a tight roof.

You have all heard of "the cold seasons," one in particular, 1816, I was here and know all about that. The birds were so cold some days that I could catch them with my hands, and many pretty ones died. I knew some people who went to Ohio then; others would have gone if they had teams and things to go with. Some large boys set traps for fur animals, and men killed bears when they came for the corn or sheep. Some boys were hunting and fishing most all the time. Some of the men hunted bears and other animals. My father killed the foxes when he saw them come for the geese. I saw my father set his gun in the cornfield so that a bear fired it off himself and was killed. Boys who had to work did not have many play-days beside the Fourth of July and trainings and muster. My father was captain then, and all his company lived in Foxcroft and where Dover town is now. I saw the men training. More companies helped to make the muster. Mr. Towne had a large field and no stumps on it. Mr. Towne was one of the officers in my father's company. Some men always came to our house on muster days before it was light, and they fired awful loud guns, and then my father would ask them to come in; and then they drank something that was in the kegs that father had filled at Bangor in the winter. And they had sugar that came from Bangor.

What I have indulged in saying, is directly in the line of that sentiment which binds each of us in loyal affection to our birthplace—to the home and haunts of our childhood—binds us to the lands amended by the industry of our ancestors—lands improved by their wisely directed labor from the condition in which they found them in this unfinished world;—in the line of that sentiment which binds us to our country and our fellowman. Under favorable conditions this sentiment gains strength with our increase of years, and at times we may advert to early experiences with profit.

The settlement within the present limits of this county was effected in the first years of this century, and twelve of its townships were entered upon at nearly the same time. The census of 1810 gives Foxcroft sixty-five inhabitants. This number was exceeded in six other townships. These people coming from the older settlements, missed the fruits to which they had been accustomed, and took immediate steps to supply themselves. A few apple trees were brought in, but most people waited till supplied

from the seeds they had brought with them. My father started with both methods. He brought a few trees from Garland, and they were destroyed the year they were set, by grasshoppers eating away all the growth of the year. I remember the stumps of those trees—some of them having feeble sprouts from the root. These trees were probably set in 1810. and his nursery started the same year. Some of the nursery, after four years' growth, was ingrafted by my father with scions brought by him from his former home in Massachusetts in 1814. Some of these grafted trees remained where planted, so that we soon had good apples from them. I feel quite safe to claim this as the first grafting done in this county.

Mr. John Hart, who moved his family to Atkinson from the town of Penobscot in 1815, obtained a few grafted trees at Garland, but they did not come to bearing before he had apples from the seeds he planted. Planting seeds in all these towns was probably done as early as these cases named. A seed planted in Abbot by Mrs. Huston before 1810, produced the Rolfe apple.

In 1820, Oliver Crosby, Esq, came from New Hampshire, and commenced farming at Atkinson on a larger scale than before seen here. Salmon and Cyrus Holmes came from Hebron to Foxcroft at about the same time.

Mr. Crosby started good apples soon, as some of the older trees there are now bearing the "Canada Red." Capt. Salmon Holmes did some grafting on his farm before 1830. Mr. A. Jackson in Sangerville and Mr. McClure in Sebec had grafted fruit that must have been started as early as the work of Crosby and Holmes. To show how I gained and retained my interest in fruit, I must here give some account of my movements. I worked with my father a part of each year from 1831 to 1836 inclusive. In that time I had seen some of our country from Eastern Maine to Connecticut. For a time I was employed so as to visit the most of the farms in the then Kennebec county from Farmington and Temple to Readfield and Winthrop. In these short journeys I gave special attention to orchards and their treatment. In June, 1838, my father, by an accident, was removed from the primary school of earth life, leaving directions for me to occupy his place on the farm for the next thirteen years. This event called me from Michigan where I had entered on a life-work of making a farm in another wilderness. The old farm at that time had several acres of orchard, and a row of trees was set by long lines of stonewall. My father's grafting had not extended much beyond 100 trees. The

other trees bore a good class of fruit, coming as they did from seeds saved from the grafted fruit first produced. I saw little value in such orchards. A few good apples could be sold in Bangor in winter; but of the main crop I could sometimes sell a load at harvest time, sixteen bushels for a dollar. I tried the Bangor market for cider, and soon tired of storing it in cellar to be hauled in winter. Our cider mill, an accommodation affair, was crowded with work two months in the season. It took me only two years to ripen a disgust for poor apples, and to form the resolution to abate a nuisance, put a new head on the trees or cut them away. I set about qualifying for the first method. I had seen some successful work done in changing the tops of well grown trees, and had seen other trees assaulted and ruined by ignorant wood-butchers trying to do the same thing. I had seen my father change a top, working by his slow method of setting scions and enclosing them in a ball of clay. In later years, elsewhere, I had seen where wax had been used, and evidence of rapid method of working. I went to Winthrop and interviewed Moses B. Sears, then extensively engaged in this work. I found him on a winter day, genial and full to overflow at all points of my inquiry. He had no secrets in his business. He took me over the whole field—how and when to cut scions; how to preserve them; how to make wax to use in cool or hot weather; talked about an outfit for the business; about choice of trees, giving promise of returning the cost of the change; how to cut the tree, avoiding the removal of a branch, leaving a cut that could not be covered by the subsequent growth; how to locate the scions, giving proper room to each, to utilize the whole top and do it with the least possible number of scions. With this practical lesson joined to my previous observation, I took up the work with confidence. I bought the fruit books then published in this country. I obtained scions of varieties not then known here. I prepared for and set about 2000 scions in the spring of 1841. Having good success with these, I made a larger job the next year. This work attracted attention, and I had calls to work for others. The demand for grafting grew to a clamor, and I joined with my brother, Luther, and we made large operations in nearly all the towns of the county. After I left this intinerancy, my brother and James, son of Cyrus Holmes, continued the work several years.

While in this work I had opportunity to learn all there was of local fruit history to that date. I worked and talked

for fruit, instructed men and boys in the ways of pruning and grafting, and never left a job without teaching the owner as to the care of the trees, pointing to the larger branches that should not remain beyond the next year. I emphasize the fact that the successful change of a top is by a gradual process. Cases often occur where it is proper to do this, but changing old tops is not to be encouraged when it is easy to get a young tree to take the place of an old one. When my care of the farm ended, in 1851, I came to my present home, having then twenty acres—only five with any improvements, and these of rude character. I came here in November and then put in cellar 3000 seedling apple trees, and grafted them in winter by the kitchen fire. I set these as a start for a nursery; and brought one hundred grafted trees from the farm for an orchard. I increased my nursery in the three following years to about 10,000 trees. In that time I started seedling pears and grafted five hundred of them in winter. They started growth in the cellar before they could be set. Some very hot days following the setting, nearly all were killed. I had not provided shade for them.

I see no impropriety in showing here the untoward surroundings that menaced my work. While setting my nursery in the spring of 1852, two prominent citizens came and looked on my work with apparent curiosity. One ventured the remark, "You will have to fence round these trees to save them." I replied: A fence will cause the snow to drift and spoil them. "But the cattle will be on the field part of the year." To that I replied: They will not be on *my* field. Then came the remark: "You will see," and they joined in a hearty laugh. I had seen the custom of the place. Animals had the run of the roads at all times. After the harvest, all boundary fences would somehow get opened and all cattle made common pillage till the next planting time. At that time my daily talk was for gardens and fruit. I saw my interest and safety lay in inducing my neighbor to grow his family supply on his own land. My talk for fruit was met by one terse expression which must have been adopted by unanimous vote of all citizens, as all gave it in the same words—"It is no use to raise fruit, the boys will steal it all!" Why men, claiming leadership in morality and public virtue, had accepted such a motto remains a mystery to me. Boys grew to manhood while hearing that repeated. But this represents a condition of forty years ago. This is claimed as an age of progress, and we have

seen improvement in some directions. My nursery was by the public road and advertised itself. The prospect for sales was good. A hard winter set its mark on some varieties, and a nursery will catch drifting snow. I began to move the trees to the brush heap. A few years later saw the last of that nursery turned to ashes. I never was paid ten cents a day for the time I had given it.

After my experience, nursery business tempted several others. Captain Webber of Guilford, H. L. Leland of Sangerville, and other good farmers raised trees to supply themselves and neighbors.

I must leave the "Progress of Orcharding" in the *way back*, as I have myself become a "back number." I stocked my small place early and hurriedly for fruit and shade, and little room was left for additions, and I have had little time for experiments—have not taken many of the apples claiming attention.

PEARS.

Very few pear trees were in the county at the time I was grafting. I had scions, but seldom a call to set them.

On my new place I started but few varieties. Of these, the Flemish Beauty gave best results. The trees made good growth and soon gave large crops of fair fruit at a time when it was generally being discarded by reason of its cracking. The tree was weak and subject to early decay at the branching point; and in subsequent years several trees went down with an overload of fruit. I set several dwarf trees, and deep snows soon destroyed them. There is no apparent reason why pears may not be grown here to a home supply. Pears brought to this village are mostly from the near towns in Penobscot county. My experience with pear trees handled by the trade is, they prove false to the attached label in most cases.

PLUMS.

This fruit received early attention. The native "Canada Red" and other better ones of various colors were quite common when the first apples appeared. The ease of obtaining the trees by their habit of suckering, and from their early production when grown from seed, favored their early appearance at most homes—they circulated without price. One of the best was white and very late in season, answering well to "White Damson" of Downing. One of dark color, (the "Wheat Plum"—called by some who liked to have things named) was very good and productive.

Three trees of last named had been set on my place by prior occupant and were well started in 1851. When matured, the three trees gave me one crop of six bushels. My success with this fruit for several years was all that could be desired. When plums were at their best with me, Hon. A. W. Paine, one of Bangor's enthusiasts, called on me opportunely, and with book in hand spent several hours identifying varieties to his own apparent pleasure, and certainly to my satisfaction in the proof that I had gathered about twenty standing well up in the named list, and lead by a good number of trees of Green Gage and McLaughlin. But the spoiler came! Black-knot speedily wiped out my picture.

CHERRIES.

Cherries appeared here nearly as early as plums. I had known one variety many years before seeing others—the very common Kentish. Some of these were set on my place a year or two before it came to me. To these I added a few trees of the Heart and the Duke classes. My collection had short time to prove their adaptability to the place, or to manifest homesickness. They sympathized kindly with their friends—the plums—in their affliction and finally made common cause in that unfortunate exodus. All other fruits common to the south half of the State have been tried here, and many citizens can speak of them from experience. I have tried about all that the climate favors, and certainly have tried some that it didn't.

In regard to the climate and the fruits it may favor, nothing need be added to what your past reports contain. It may be of interest to know with what certainty the apple crop comes to us. I have more than once been to western New York in autumn when scarcely a bushel of fair apples could be seen out of Maine. I have been here to see every apple crop, except that of 1837, since my father's first grafted trees came on, and can say there has not been a skip in all the time since when we have not had some of the varieties he then introduced. I feel safe in this statement as regards the Hubbardston. There have been a few light crops, but not a time when good apples could not be had at reasonable price. We have had occasional damage by hail on small areas; and some by neglect lost a crop by the tent caterpillar. In regard to untimely frosts we have been specially favored.

Vegetation is held well back in spring by the deep snows and the ice of the lakes, and hard autumn frosts are with-held by causes that are not so apparent. Many times the crops here have escaped, when in nearly all of the East and Middle States there has been great loss. Last season we had only very slight frosts before November, while Vermont and Connecticut had been reporting hard frost and snow.

While I have the floor I will add a quotation I have once seen aptly applied on a similar occasion, that is good enough to bear repeating here. It is the last advice of the old Laird of Dumbiedikes, and has been made of enduring record by Scott: "Jock, when ye hae naething else to do, ye may be aye sticking in a tree; it will be growing, Jock, when ye're sleeping."

CONDITION AND PROSPECTS OF FRUIT CULTURE IN PISCATAQUIS COUNTY.

By H. L. LELAND, East Sangerville.

I wish first to say a few words with regard to Brother Chamberlain, who sits upon the stand. Had Brother Chamberlain left himself out of orcharding in Piscataquis county then fruit culture might have been left out,—there would have been but little left. We sometimes hear it said that the play of Hamlet without Hamlet would contain but very little. I wish to say that for whatever we have done in this county in fruit culture we are very largely under obligations to our friend, Mr. Chamberlain, who has been the leader of fruit culture in Piscataquis county, and has practiced what you have heard spoken of here to-day. He has made a practical test of fruits,—has brought them here and introduced them, not only apple and pear trees but the smaller fruits; so that if any of us farmers wanted a few currant or gooseberry bushes, or a grape vine, we would go to Mr. Chamberlain's place to get them, and with them we always got a good deal of good advice in regard to planting and caring for them; and so in our county here, we that are some younger than he, but we have for him the utmost respect, and are proud that he is with us to-day and has written for us this excellent paper. It is a correct, concise history of fruit raising and growing in Piscataquis county down to the time when he partially dropped out of the work. Now, if I am to continue that history and show

you how we are situated in regard to fruit growing to-day, I shall have to ask you to use my eyes. I wish we might regard it a pleasant day in June, and ride over these hills and valleys, up and down the length of Piscataquis county; we could see very quickly what the condition of fruit culture here is to-day. But if you will take the picture from me, I will attempt to present it to you as concisely as I can. Our fruit culture in Piscataquis county is a good deal mixed. We have to-day those old orchards planted by the pioneers. I have been astonished as I have passed through this county from east to west and from north to south, to see that almost every one of the pioneer farmers planted large orchards. They came from Oxford county, New Hampshire, and other places where they were accustomed to have plenty of fruit, and one of the first things they did was to plant apple seeds and raise nursery stock.

This was done in every town, and these old orchards remain until this day. Many of them have been scarred with the tooth of time, but they yet remain, and if you ride over these hills you will see them, not only on farms now occupied, but on farm after farm, and what has been home after home you will see apple trees growing among the spruces, cedars and hard wood growth; and you will wonder how these old broken trees came here, still showing evidence of life, expanding their limbs to the breeze and getting what they can of mother earth though crowded and hidden by these forest trees. And possibly at the season of the year when you see the apple blossoms you will see among brambles and briars a rose in bloom and a few flowers of the hardier sort. You will see where once a garden smiled, and still many a garden flower grows wild.

These abandoned places were the homes of thrifty families many years ago. They took up nearly all of these lands and raised large families; but these boys and girls discovered that after the land had been cleared, it was extremely rocky and hard, and they have sought for better fields; and we find them in our villages and in the West, but not on these old farms.

I wish to say in regard to the New York trees of which Brother Chamberlain spoke, that I rescued a few of those trees from the brush heap. He has forgotten that I took from his nursery several hundred trees and planted them, and have to-day a very fine orchard.

Many of these New York trees were brought in by the tree vender, who came with his picture book and wonderful trees, and every

one took trees; and as they were told that they could plant them on any rocky ground.—the more stones the better,—they would select some old, rocky field, as the cattle would destroy them in the pastures, and make a hole and stick them in. I think the result is very evident. In the fall of the year the cattle had the range of the whole farm and if these trees started at all the stock would of course destroy them; or if any escaped, the winter snow and ice would use them up. The next year more trees would be wanted, and the venders would come around with a hardier variety, and so it went on. The farmers were continually buying trees, and the trees were continually going out; money going out and the trees going out with it, so that an orchard of New York trees in Piscataquis county that is of any age is very rare. It is an exception, although you will find a few of these trees. In recent years better trees have come in from the West, or if not better trees better care has been given them, and we are getting now some young orchards that are well cared for and show that they are going to be profitable. But our best orchards are from home grown trees. Quite a number of men from different parts of the county have been in this business somewhat.

That is about the condition of our orcharding in Piscataquis county to-day. We have still these old trees which ought to be cut down and gotten out of the way. Why they are allowed to encumber the ground I know not, unless it is on account of the veneration we feel for them. I know that I felt badly when I saw the trees being cut down in the orchard which my grandfather planted, near the place where I lived. We did not as boys have fruit on our farm, but I remember we always got some amongst the other trees somehow. It was supposed that boys forty years ago would get apples if they were very apple hungry; but it is not supposed so now,—there has been a great improvement in boys.

Last summer Prof. Munson sent out from the college a bulletin of varieties of fruit adapted to different sections of the State. I had a bulletin at the time, but have mislaid it, and shall have to quote from memory. I was reading that bulletin one day, I think it was Sunday. I was alone in the kitchen,—my family were in the sitting-room. In reading that I made some noise. I think I smiled out loud, and my wife came out to find out what was amusing me. I said "One of those college chaps has issued a bulletin about fruits in Piscataquis county." I think among the

varieties mentioned were several of the stern iron-clads of the rigid North somewhere,—I do not know where they are good,—but not one of the standard varieties. The fruit exhibited on the third table was all raised in Piscataquis county, and we are showing it under the most disadvantageous circumstances that we have ever showed fruit. We have sold our finest fruit, without thinking of saving it for this meeting. But if you examine our fruit you will find all the standard varieties that you find in any part of the State ; though I will admit that several of those varieties are not a first-class apple in Piscataquis county, among them the Baldwin. I am not going to say we do not raise Baldwins, but I will admit that we do not raise such Baldwins as I see in Kennebec and Franklin counties, and farther south. I have never had a tree of any kind winter kill and I have had all varieties. In our climate we can grow all the varieties, but the Baldwin is not what we suppose it to be in the southern part of the State. It may be that we have not given it the care that we ought. We have been very remiss in not giving our trees proper care. We put them out anywhere and expect them to take care of themselves. We have been more negligent in that respect than you who are farther south of us, but we are doing better work than ever before. If a cow is tied to a stake she will starve in a short time ; a tree is tied and has got to be fed or it will starve to death.

It is sometimes supposed that we are away up in the frigid zone. I remember that Brother Knowlton and myself some years ago were being driven from Presque Isle toward the Northwest, and it was an exceedingly cold day. I said to the driver “this is fearful.” He said, “the North Pole is just up here.” And I thought we had got pretty well up toward the North Pole ; but we in Piscataquis county are not there. To illustrate our climatic condition, as compared with that farther south by what is planted here ; twenty-five years ago next August the Board of Agriculture held its first meeting in Piscataquis county. It was then a condition imposed on the Board that an annual meeting should be held in close proximity to the State College, and that the faculty and students of the college should be in attendance. We considered this close proximity, and the meeting was held here, the faculty and students being present.

Brother Chamberlain invited the Board, and especially the students, to visit his place up here on Main street. It was then in its prime ; his gardens, fruit orchards and grapes were then in a con-

dition to be shown. Mr. Goodale in extending this invitation made these remarks: "Before the commencement of the regular exercises of the afternoon I desire to offer a single suggestion to the students present. Mr. Chamberlain has invited you to visit his grounds, and you will doubtless embrace some opportunity to do so."

Now there is a wide difference between barely looking at objects, and carefully observing them. The one may be of little profit; the other may be highly instructive. If you notice with care you will see many trees, shrubs and plants which are not indigenous to this section and which are rarely grown here; you will find several nut-bearing trees as the hickory and chestnut, several rare kinds of oaks, black walnut and various others; and you can learn the various degrees of care for each under the conditions of soil, climate, etc. And so with the fruits; I was forcibly struck with what I there learned regarding grapes. This place is 100 to 150 miles north of the place where I reside, and you would naturally expect to find the fruit later; but such I find is not the case, but the contrary." That shows something in regard to our climate, and Mr. Goodale is a man who never speaks at random.

DISCUSSION.

Ques. Will you please tell us which varieties do the best here?

Ans. I simply claim that we do grow all the standard apples, possibly excepting the Baldwin and possibly the Northern Spy, that are grown in the State. And I think there is no difficulty with the Northern Spy, if we properly enrich the ground; and possibly not with the Baldwin, though I do think we are out of the Baldwin region. We grow all the fall varieties, and we can grow as good Nodheads and Hubbardstons as I have seen grown under the sun; as good Porters, Somersets and Greenings, including Rhode Island Greenings.

Some years ago Brother Chamberlain introduced here the Hurlbut. I got a tree, supposing it to be a good apple, because I knew Brother Chamberlain would never adopt anything unless he knew all there was to be known about it at the time. I liked the growth of the tree exceedingly well; and I can say that so far as I know it is one of the most productive apples we grow. It is an apple that is salable and the quality is good. There is only one fault, it must go before January or there will be considerable loss. It is about with the Nonsuch. We have now an apple, the Milding,

which came to me recommended by Mr. Gilbert. I had confidence in him and grafted quite extensively; and I must say that in my experience I have found nothing that suits me anywhere nearly as well for a winter fruit as the Milding. Nothing equals it as a pie apple.

Ques. What variety takes the place of the Baldwin?

Ans. We have been hunting for a substitute for the Baldwin for the last twenty years; and I believe the Milding will take its place. It grows large and handsome and is an exceedingly productive bearer. The tree is thrifty and the apple smooth and of large size. I have kept the Milding until April or May. We grow the King here also. It is a handsome apple but a shy bearer.

Prof. MUNSON—I would not give a cent for a man who could not laugh, and I am very glad indeed that I gave Mr. Leland some source of amusement. I am very, very sorry that we have not a copy of the bulletin here but if I remember rightly the list which I gave is headed for northern Piscataquis, Penobscot and Washington counties. I am very glad indeed that in Dover and Foxcroft you can grow these apples, but in the northern part of the county you cannot grow them. At Patten and at Sherman we cannot grow these apples. The list must be tentative; but in the northern part of the county we cannot grow the same varieties that we can in the southern parts.

The Dudley's Winter is *the* apple for Aroostook county. It is a seedling of the Duchess and is in prime in January and February, but may be kept until the first of April. It is as hardy as the Duchess, and I consider it a very satisfactory variety for Piscataquis county. In this part of the county it would probably be in prime about December or early in January. It is being sent out by Chase Brothers as North Star. It is very unfortunate that that name should be applied to it, as there is another variety grown in Iowa which has the right of the name.

I am glad that the point has been brought to our attention that there are varieties which can be grown here which cannot be grown in the northern part of the county. I think Mr. Leland will agree with me that many of these varieties which he can grow here at Dover will not succeed in Monson. I have friends at Monson who have told me some of their experiences in attempting some of these standard varieties, and their work was attended with very disastrous results. I think there is no misunderstanding if we take into account the extent of the county,—it is long north and south.

THE MODEL FRUIT GARDEN.

By J. F. NORRIS, Foxcroft.

First, why should every farmer have a fruit garden? Because a generous supply of it is necessary to the health of his family. Give the children all the well-ripened fruit they need and discharge the doctors with their ghastly list of mineral drugs.

It is beginning to be found also, that fruits are even more needful to the aged. Medical science tells us that chalky deposits in our bodies bring sluggish circulation of the blood, make brittle bones, shrunken limbs and the tottering steps of wrinkled age. Fruits do not contain these chalky ingredients, and could we rheumatic and crippled farmers substitute largely for hard water and hard meats, also for bread stuffs, fruits and their unfermented juices, we might put off the evil day of hoary decrepitude. The farmer who neglects to raise fruits, neglects the most important item in his own diet.

No doubt it was the model fruit garden into which the Creator put Adam and Eve; and the antediluvians lived each a thousand years because they used a fruit diet.

Let us have the model fruit garden because it will add to the attraction of farm life, and will increase also the money value of the farm more than any other improvement we can make with a small outlay of time and money.

OUR SHORT SEASONS

are not unfavorable to the small fruits. The strawberry, currant, gooseberry, blackberry, raspberry, are indigenous to and abound in the forests far to the north of us, and this is true also of the cherry, plum and apple. We have less insect enemies here in northern Maine for small fruits than south and west, and the great enemy, both of small fruits and stone fruits—severe summer drouths, which in the South, Northeast, Middle and Western states is making the fruit crop increasingly uncertain, does not trouble us here. Our deep snows help us also in giving us protection.

Suppose you devote one-half acre to your model fruit garden, you will be surprised at the long list of large and small fruits you can grow on it, and yet give them very ample room.

BILL OF DETAILS.

Strawberries, 260 hills, two plants to a hill—520 plants at three-fourths cent, \$3.90; 37 grapes at 20 cents, \$7.40; rhubarb, 7 hills at 8 cents, \$ 56; black raspberries, 30 at 5—\$1.80; gooseberries, 54 at 8—\$4.32; blackberries, 73 at 5—\$3.64; total, \$26.39.

Apple trees, 40 at 20 cents, \$8.00; pear, 27 at 30—\$8.10; cherry, 27 at 30—\$8.10; plum, 30 at 30—\$9.00; total, \$33.20, added to the small fruit list, making \$59.58.

The strip of ground might be twice as long as wide—180 feet north and south and ninety feet wide. This will give seven main rows for the large fruit trees running north and south to secure sunlight on both sides; four rows of apple trees thirty feet apart each way; between these three rows pears same distance apart standing quincunx order to the apple trees. Between the apple and pears go the cherry and plums, and in this fifteen feet space go the currants, gooseberries, etc.

CHOICE OF VARIETIES.

The aim should be for good quality for the family table, hardiness, productiveness, and succession in ripening.

Strawberry.—Early Michel, Lovett's Early, Crescent, Parker Earle.

Raspberry.—Thompson's Extra Early, Golden Queen, Cuthbert, Shaffer, Olden.

Grape.—Moore's Early, Moore's Diamond, Moyer, Delaware, Green Mountain.

Rhubarb.—Strawberry.

Gooseberry.—Downing, Red Jacket.

Currant.—Red, Cherry, White Grape, Fay.

Blackberry.—Wilson's Early.

Apples.—Two each of Yellow Transparent, Red Astrachan, High-top Sweet, Sweet Bough, Porter, Rolfe, Hurlburt, R. I. Greening, Fameuse, Yellow Bellflower, Jersey Greening, Ben Davis, Crab, Talman Sweet, six Milding, three Duchess, three Somerset.

Pears.—Idaho, Wilder, Krull, Bessimianka.

Cherry.—Early Richmond, Ostheimer, Abesse, Suda, Montmorcency, Dyehouse.

Plums —Red June, Burbank, Abundance, Satsuma.

MATERIALIZING THE MODEL GARDEN.

Mr. Norris said he had no doubt but enough had been lost in Piscataquis county in trees badly bought, badly selected and badly cared for to have secured, if rightly managed, a good fruit garden on every farm.

Don't buy of an agent. He is likely to give you, for an enormous price, poor stock, in bad condition, untrue to name. Go yourself to the grower and see that the stock is vigorous, well-sorted and shapely. This one can do for the small fruits.

If you must get your tree from abroad send directly to a good nurseryman or get a friend to do this for you. If several club their orders bottom prices can be obtained.

Have the garden convenient to the house. Cultivate as much as possible with horse and proper tools. If the site has elevation enough for good water and air drainage there will be but little trouble from winter-killing. If the site is low, confine yourself to iron-clad apple and pears and give winter protection to everything else. If the soil is unduly moist, underdrain.

Most of the upland soils of the Piscataquis valley are favorable for a good garden. I get, however, my best strawberries and other small fruits on clay loam, naturally wet but thoroughly underdrained, and stirred every two or three years with a subsoil plow. Such soils are preferable for plums and pears, but cherries and grapes do better on dryer soils.

SETTING TREES AND PLANTS.

Have the soil mellow enough and rich enough for heaviest crops of sweet corn. Have the land harrowed fine and smooth. Run a marker the longest way marking rows seven and one-half feet apart, perfectly straight; in these marks run the furrowing plow. Set the marker teeth three feet nine inches apart and mark across the furrows. Set up stakes (laths) in the apple and pear rows, not setting them where the trees are to go in, then as you put in your trees you can get them in perfectly straight line by sighting past the stakes.

Trees should not be exposed to the sun or wind neither bruised nor dried.

Make the holes large enough to take in the roots without cramping, deep enough to set stems three or more inches under ground.

Have nice, mellow soil under the roots ; work rich soil—not manure—among the roots and pound it in firmly, filling all air spaces ; let the long roots reach towards the west and the tree lean slightly towards the 2 o'clock sun. Throw some loose soil over the hard pounded earth that holds the roots and the little job is done.

STRAWBERRY PLANTS.

Never expose the roots to the sun. Handle them with plenty of earth clinging to the roots if you can. If the roots are bare of earth, carry the plants in a vessel containing a little water to keep the roots wet, and set out directly from the vessel, spread the roots well and press mellow soil firmly upon them and covering the crown of the plant—two plants go into each hill.

Grapes, currants, gooseberries, raspberries and blackberries, should all be planted deep enough, so that the cultivator will not readily tear them out, all of these are hardy except the black cap raspberry, and are not difficult to make live.

IN CULTIVATING,

stir the ground once a week by running the cultivator both ways ; clean off the rows by hand hoe. Practice clean culture and carry the habit over to all cultivated crops.

Broken roots and limbs, and limbs not needed for a shapely top, smoothly cut away. The remaining cut back more or less according as the roots are many or few, but do not trim to a bean pole. Watch the trees as they grow and pinch all buds and sprouts not needed for a shapely top.

When setting grape vines cut back to three buds, as they grow rub off the two weaker, thus train to one wire the first year.

WINTER PROTECTION.

The currant and gooseberry do not need it, even in Alaska, but we must not forget that both need summer protection against the currant worm. Dusting the damp leaves with hellebore is a good remedy.

The strawberry is also an Arctic plant. It gets on well here under our snows, and a covering in fall of seedless stable manure or evergreen boughs only, that makes the crop sure and abundant.

The raspberry and blackberry give a sure crop only when laid under the snow. Mr. Norris said his plan for protecting his rasp-

berry vines was for two men to take a heavy rail and place against the row of vines and press them over towards the east, letting the rail lie upon the canes to hold them down; and so proceed till the end of the row. The ridge made by the rounded over vines and rail holds the snow which drifts over them and makes ample protection for winter. In April when the sun lifts the snow robe, remove the rail and the vines rise as upright as ever. The crop never fails.

The Black Caps are tied to stake five feet high—in the fall the old canes are cut out and the new ones laid together near the stake and covered with soil to hold them in place.

Grape vines are trained to stakes ten feet high. After harvest cut the laterals all back to two buds; place the trimmed vines in a coil about the stakes and cover with soil.

Our strawberries run out in three or four years; the blackberries and raspberries in eight or ten; but the currant and gooseberry, trained on the renewal system, will last as long as the apple trees.

The garden must be liberally dressed with seedless manure every winter, and twelve or more bushels of ashes all over it each summer.

PICKING.

Excepting the pear, let all your fruits get tree ripe before picking. Much of the strawberry crop in this region is picked too soon, is therefore sour, insipid and unwholesome. The blackberry also, is delicious only when fully ripe.

Watch all the larger fruits to catch them at the points of ripeness, then revel in the best of food God has given to man.

DISCUSSION.

Ques. What variety of blackberry do you raise?

Ans. The Early Wilson. It is a slender kind that will turn down without breaking, is the most prolific of any, bears every year and will hold up great masses of fruit if you give it protection.

Ques. Is the Shaffer raspberry hardy here?

Ans. It is, if you put it down; but perhaps the Shaffer would not be profitable with you. Most of the black raspberries are failures because but few will ripen, and the rest will dry up and not come to perfection.

Prof. MUNSON—I think the matter of laying down plants is a very important one, and one which need not be a cause for so

much fear as is evinced by many; but in our deep snows is it always advisable to lay our plants to the east for the sake of getting the west winds? We find there is a tendency with the deep snow to flow down hill just as there is with water, and my practice is to lay them in the direction of the slope rather than against it so that the snow may work down over them.

Another point which I want to bring out is in the care of some of these trees that we get through our tree agents. Many times good trees have been carted around the country for hours, and I do not know but I may say for days at a time, until they are not fit to set. Many times such a tree as that may be saved if you will put it right into the ground,—bury it root and top—and leave it for a week. Moisture will gradually be taken up and the tree may be saved by giving it that treatment, whereas if we set it immediately in the ground it will be lost every time.

The Japanese plums are not sufficiently tested in this State to warrant our placing our whole reliance on them. They have been fruited to a very limited extent, and they are very attractive in appearance; but for the general use of the farm, for the farmer's home garden, I think we cannot place full dependence on the Japanese plums. The varieties which have been named are the best of that class,—the Burbank, the Abundance and possibly the Willard; but we want some hardier sorts. The Lombard is everybody's plum; anybody and everybody can grow the Lombard. And another plum which is of superlative quality is the McLaughlin. We know that is hardy and it is one of the best plums that is grown for home use; and the Bradshaw is always good. I should advise planting some of these hardier varieties which have been well tested, for main dependence.

Ques. Will you not include the Moore's Arctic for the farmer?

Ans. Yes; the Moore's Arctic is a very good plum for canning and is very hardy. Perhaps I would include that for those who do not exercise the care necessary to grow some of the more valuable sorts, but it is decidedly second rate in quality.

I also wanted to speak of the matter of gooseberries. The Red Jacket gooseberry is a new thing and we will have to pay \$3.00 per dozen for the plants, and I should not advise making that the leading variety of gooseberry. We have the Downing, which is one of the most satisfactory varieties of the native type; and if we want an English gooseberry we know that the Whitesmith has been

well tested and is one of the most satisfactory of the English type, far superior in my estimation to the Industry.

Ques. Would you not add the Reine Claude to the list of plums?

Ans. It is one of the very best. It is a short lived tree and just a little inclined to be tender, but a very satisfactory plum.

Mr. NORRIS—I had those varieties of plums mentioned, the Lombard, McLaughlin, Bradshaw, etc., and supposed they were tough enough to stand the winter, so I let them stand up, but every one of them killed back to the stump. I find if I put them down, as I do the Japanese plums, they do just the same,—come up all right in the spring.

Prof. MUNSON—Most of the farmers in this vicinity would be situated so that they could grow the trees without laying them down. But they would not be able to grow the Japanese without laying them down where they would be able to grow the domestic trees. The Japanese sorts are not sufficiently tried so that we can depend upon them and you have got to give them a great deal more care than you do these hardy, vigorous, well tried sorts.

Mr. KNOWLTON—I wish to mention a variety of blackberries which the speaker omitted and which is grown in a large part of the State more successfully than any other; I refer to the Snyder.

In quality it may not be quite as good as the one the gentleman speaks of, but it comes pretty near being thoroughly hardy. I have had my bushes growing twelve or thirteen years, and with the exception of one year I have always had as many blackberries as we wanted and could expect from those bushes. In other words they have been so thoroughly hardy that without the slightest protection they have borne ten out of twelve years. I do not say that to say anything against burying the canes in the winter if any one wishes; but I have a feeling that here in most parts of Maine it is not necessary to do this with the Snyder as a rule. The Snyder berry is one of the best in quality, and the ease and certainty with which we can raise it makes it really one of the best.

Mr. NORRIS—I had a row of Snyders which I let stand up and another row which I turned down. From the row which I turned down I got a wonderful crop, but from the other row not a berry.

A DISCUSSION AS TO WHAT SHALL BE MAINE'S FLOWER
IN THE NATIONAL GARLAND.

By JANET L. DINGLEY, Auburn, Chairman of the Maine Floral Emblem Society.

All the countries of Europe, in fact all the nations of the civilized world, have their national flowers. They have originated for the most part either in legend or in war. The mignonette, the emblem of Saxony, is founded on romance. The English rose is immortalized by thirty years of war. The shamrock of Ireland is grown out of religious mystery: "How can three be one?" asks the pagan Irish chief. "Even as the trefoil," answered St. Patrick, plucking a shamrock at his feet, and Ireland had a floral emblem from the suffrage of heaven.

The prick of the thistle once caused a cry in a party of attacking Danes, and thus saved the Scots from slaughter at the hands of midnight marauders. The French fleur-de-lis has been the emblem of France ever since a wonderful dream of one of the earliest kings of that country. Every traveler in the Alps will admit the peculiar appropriateness with which the edelweiss typifies Switzerland.

The national floral emblem of the United States cannot be founded on traditions, for we have no national myths. It would not be appropriate to consult the annals of war, for we are preëminently a nation of peace. No striking event in our history proclaims the fitness of any one flower. The struggle for life of the early settlers and the struggle for money of the present generation have given us small leisure to agitate a theme which peculiarly concerns sentiment.

For upwards of ten years unorganized movements have been made in different parts of the country looking to the selection of a national flower. One band in the South suggests that our flower be emblematic of our industrial life, and proposes the cotton as our emblem. The farmers of the West suggest the corn as emblematic of agricultural life. However, it is thought by most that by a garland the spirit and idea of our federation will be best expressed. It concerns Maine, therefore, to select her emblem to form a part of this garland.

The first thoroughly organized attempt by popular choice to secure a national floral emblem appropriate to the United States

originated at the Congress of Women in Chicago during the World's Fair. Since our country is so vast, our interests so diverse and our climate so varied, it was proposed that our national floral emblem take the form of a garland composed of as many flowers as there are states, these to be chosen by the popular vote of each state and legalized by the different state legislatures, and then presented to the national congress for final ratification. The plan was enthusiastically adopted and endorsed by Mrs. President Cleveland, Senator and Mrs. Frye, Mrs. Garfield, Mrs. U. S. Grant, Congressman and Mrs. Dingley, Governor Cleaves, Mrs. Robert E. Lee, Mrs. Jefferson Davis, and hosts of others in our country. The movement was thoroughly organized last year and some states have already chosen state flowers. Vermont the red clover, Iowa the Indian corn, California the poppy, Wyoming the sunflower, and so on.

The Maine Floral Emblem Society has been engaged the past six months in bringing the selection of a State floral emblem before our people, who have not forgotten the beautiful object lesson supplied in the recent procession and battle of flowers at the September meeting of the Maine State Agricultural Society. On November 24th the ballot was opened to the State. The voting is being conducted through organizations like the Maine State Grange, the Sons and Daughters of Maine in other States, and the Women's Federation, and through the newspapers, which, with patriotic appreciation, have published a blank ballot. No reader of Maine's newspapers need be ignorant of how and when to vote. It is not my desire to influence, but only to inform my hearers, so I present the arguments for the various candidates proposed just as I hear them.

It has been argued by some that the pine cone and tassel constitute the natural emblem of the State in both an historic and a poetic sense. Those who antagonize the adoption of the pine cone, say that the pine cone is not a flower. The lovers of the pine can appeal to precedent, for neither is the shamrock a flower, yet it is sacred to the Irish nationality. Botany must surrender some points to history, and selecting anything but the pine might give us two emblems afield, thus imperiling our identity without enriching our nosegay. The pine cone is indelibly connected with the history of our country, for it was emblazoned on the first flag which ever represented the United States. However, the pine is fast disappearing from our Maine forests, although it is to be hoped that arbor culture may in the future revive our pine forests. But we

are the Pine Tree State for all of that. It is also urged that the pine cone would be more effective in a garland because of the variety and beauty it would contribute thereto.

The critics of the golden rod call it a weed, and the farmers doubtless prefer to see it in a garland rather than in their fields. Moreover, its opponents affirm that the separate petals of the golden rod are too minute, and have little distinctive character, so that the flower might become a shapeless mass in the hands of an engraver.

Since the national garland should lend itself effectively to art, it is urged that the pine cone can be treated far more effectively by engraving than the fine petals of the golden rod. But the champions of the golden rod assert that it is the most universal, permanent and beautiful of our way-side flowers, and that all things are weeds when they are in our way.

There are many advocates of the apple blossom, but the flower, though beautiful, lasts but for a day. The apple blossom would obviously add beauty to the national garland, and certainly it would be more available in art than the golden rod.

The advocates of the pine cone urge that the cone and tassel would be the most appropriate emblem for Maine, historically speaking. Others affirm that the apple blossom would unite in a singular degree the felicities of beauty and utility; while, in their turn, the champions of the golden rod say that this lovely way-side flower appeals exclusively to the æsthetic sentiments, which are those that should be predominantly enlisted by a floral emblem.

The choice of the State is divided between these three candidates so that to vote for other flowers does not seem to be called for, although no flower is out-lawed. Upwards of 15,000 votes have thus far been cast with a strong plurality of upwards of 5,000 in favor of the pine cone and tassel, but with a powerful sentiment for both the golden rod and the apple blossom. It may be well to say that by general consent the Mayflower has been reserved for Massachusetts. The ballot will be open until January 12.

It is not without significance that universal suffrage in Maine is first to be exercised in a question in which beauty and duty are co-ordinated. The national garland made up of flowers chosen by popular suffrage, will probably become a fact within two years. It may in due season supplant the wreath on our coins. It will re-inforce patriotism with the sentiment of beauty as the flag re-enforces national enthusiasm with its memories and its symbols.

Nor will the American Union lose on the side of higher sentiments if the states that compose it are typified by their characteristic flowers, those together composed as a national garland embodying both the individualism of state sentiment and the federation of patriotism.

It is earnestly requested that the members of the Pomological Society engage in the ballot of Maine's flower at this meeting, and it is hoped that an effort will be made to secure as large a vote as possible for Maine's flower, in the short time now remaining.

Miss Harriet Harmon of Foxcroft read the following poem written by Miss Julia H. May :

FOR COLUMBIA'S GARLAND.

They are weaving a beautiful garland
 To place on Columbia's brow,
 The West and the South are weaving,
 And we must be weaving now—
 A leaf, or a bud, or a flower—
 Ah! we need not look in vain.
 Can the land give brighter blossoms
 Than those in the woods of Maine?

So many! O, how can we choose it?
 Shall it be the golden rod?
 Shall we gather the apple blossom,
 Or the violets fresh from God?
 Shall it be the star-eyed daisy?
 Shall it be the ripened grain,
 That we pick for our mother's garland
 Out of the fields of Maine?

Shall we carry a bud, or a blossom,
 A branch or a tiny twig?—
 They will need them all in the garland,
 They can use the smallest sprig—
 Something pure and precious,
 That the rest would not obtain,
 We must pick for our mother's garland
 Out of the woods of Maine.

Shall it be the opening rose-bud?
 Shall it be the fragrant pink?
 They can bring more beautiful roses
 From the Sacramento's brink—
 Shall it be the water-lily
 Whose petals the snow-flakes stain?—
 There are lilies just as white and sweet
 As those in the lakes of Maine.

Fair is the star-eyed daisy,
 Queenly the golden-rod,
 Sweet is the purple violet
 Peeping up from the sod,
 And the royal buttercup
 Over the fields can reign,
 But we want to carry something else
 Out of the woods of Maine.

We will go to the deepest forests,
 Where the brooks and the sparrows sing,
 And a branch from the tallest tree-top
 Out of the shades we'll bring,
 And we'll pick for our mother's garland
 A branch that is truly ours,
 From a tree she gave us long ago,
 And will weave it among the flowers.

Mother of States and Nations!
 Mother of noble men!
 Out of the pine-tree-forests
 We come to thee again.
 Forest and happy island,
 River and singing sea,
 Brooklet and bird and maiden
 Join in the jubilee.

We have given our sons and brothers
 In the days of bitter strife,
 We have given our heart's best treasures
 For liberty's precious life,
 They lie by many a hill-side,
 They sleep by many a plain,
 And because they died we can send a gift
 Out of the woods of Maine.

Not to the sound of bugle,
 Not with the martial drum
 Do we bring *this* gift, but with blessings,
 And with songs of peace we come,
 Over the hills and valleys,
 Saved by the blood of the slain,
 We bring our pledge of loyalty
 To thee, and the State of Maine.

Mother of States and Nations!
 We bring our native pine,
 And we swear by the faith we owe thee,
 And the help of the hand divine,
 Love that is strong and fervent,
 Love that is sweet and pure,
 Growing, forever growing,
 As long as the pines endure.

DISCUSSION.

Dr. M. C. FERNALD—I had no idea of opening this discussion in regard to the flower which should be selected in the State of Maine. There are some reasons why the pine is not a correct one to select, though that may sound a little strange to residents of "The Pine

Tree State." I had occasion in looking up the subject of forestry recently to obtain statistics in regard to the changes that are going on in the forests of Maine, and to take the changes on the Penobscot river for illustration:—I find in looking over the period of forty years, from 1853 to 1893, and contrasting the first five years of the period with the last five, the following changes in forest products:

I find that the spruce has increased from an average of 65,500,000 feet a year to 111,000,000 feet, or in other words the growth of the spruce has increased 70 per cent. I find that the annual production of the hemlock has increased from 12,000,000 to 24,000,000 in that period of time, or in other words, 100 per cent. And I find that the pine has fallen off from 69,000,000 to 24,000,000, or in other words, it has declined 65 per cent. That is to say, of the pine there is produced but 35 per cent of the same amount there was thirty years ago. The pine is running out, and unless recuperative methods are adopted, twenty-five years hence we shall not be known as the "Pine Tree State." Within a limited period of time the pine will not exist in the State unless some change is brought about. Now I state these facts so that we may vote understandingly. At the same time I am in favor of the pine as our State emblem. I think it should be adopted on historical grounds, but so far as present propriety is concerned we might as well call this State "Spruce Gum State" or "Spruce Tree State." I know it would take the poetry, or the sentiment, out of the idea, because there is a good sentiment that clusters around the pine, and I think it should be preserved. This State has been known through all its history as "Pine Tree State," and many of the leading citizens of the State have obtained their wealth from the pine; I believe it should be selected in preference to any of the flowers that have been named for the reasons that were presented in the paper. Notwithstanding this decline in the growth of the pine in our State I think it will be best to adopt this as the emblem and then prove true to the emblem. I believe if we allow this matter to drift for the next quarter of a century it will be almost impossible to restore the pine tree to the State of Maine; but commencing now it is possible, and we can be true to the name,—true to the motto. It seems to me that the pine is far more fitting for an emblem than any other that has been suggested. We have heard other flowers suggested, but they are in blossom but a short period of time; there is no flower or tree that would stand for so

much in the State of Maine as would the stately pine that has been our boast and our glory in the past, and with proper treatment may still be in the future.

I suppose it would be out of order to discuss at all the subject of a national emblem. It is undoubtedly true that a garland will be adopted. If it were not adopted it seems to me that corn should be the national emblem. Ordinarily we have but little appreciation of the extent and value of this product. It leads all others.

SEC'Y MCKEEN—The remarks of Dr. Fernald in relation to the pine as a fitting emblem for our State were extremely timely. I am aware that he has put much thought and care into this subject, but I hardly agree with him in one of the conclusions that he reached to-day,—that only by extreme care can Maine continue to be “Pine Tree State.” It occurs to me that Maine is bound to be “Pine Tree State,” that she cannot be anything else; that the pine is so thoroughly and completely indigenous to her soil that it must and will grow in spite of the woful and wasteful inroads of our Maine lumbermen and farmers. Twice in my memory have I assisted in cutting the pine growth from a piece of land for the purpose of pasturage, and to-day that piece of land is worth more than any other piece on our farm for the pine growth that covers it; and that is not an isolated case. Similar cases are occurring all over our State, and I believe that it is well that Mrs. Beedy has come here to-day to talk to us upon this question of the pine,—the pine tree as the floral emblem of our grand State. The first meeting of the Federation of Woman's Clubs was held in the office of the Board of Agriculture at the State House, and at that time a committee was formed for the purpose of designing a banner to be exhibited at the World's Fair that should carry with it as the emblem of the Federation of Woman's Clubs the purposes of that organization.

That banner is now hanging in that office; it consists of a cornucopia from which are floating in the shape of the three-leaved clover, the different women's clubs in our State, and from the corners of that emblem are hanging this same pine cone. The citizens of Maine as they visited the World's Fair and saw this emblem floating from the wall of the Maine Building were wonderfully struck with the appropriateness of the cone as an emblem of our State.

I think it is well for us all to grow up with the idea that the State of Maine is the place to live in, and just as many meetings

as we can hold for the purpose that this meeting is held, and just as much as we can impress upon the minds of all, both old and young, the idea that we have something here worth living for, and that we are going to make emblematical for all time until it shall become a matter of history, just by that much shall we gain as a State and as a part of our nation. Within the memory of many of us is the time when Maine was considered a little too far north. My father used to remark when the cold nights of winter came that "The State of Maine is a little too far north." Very soon there came an idea into the minds of many that Maine was too far east, and then commenced an exodus to the West.—"Westward, ho!" was the watchword. But the idea is becoming apparent to all of us, old and young, farmer and mechanic, that the State is in just exactly the right place. We would not have it moved a degree South or West, but we are going to stay here and help develop it and make it worthy of having an emblem and a good one, in the great national garland that is to come.

Mr. LELAND—I was somewhat struck with the conclusion at which Prof. Fernald arrived in regard to the forests of Maine, particularly the retrograde movement that is taking place in the growth of pine. It seems to me there may be some facts that he has not taken into consideration in regard to this matter. As I have passed through the southern portion of the State I have heard good, sensible men in that section make the remark that there was a larger area of pine in the southern half of the State than fifty or seventy-five years ago; not that there was a larger amount of timber, but of pine growth. We who are farmers in this county are aware of the fact that our pasture lands and lands not cultivated spring up readily to forest growth, and very much of that growth is pine. Of course we cut this pine where we wish to use this land as pasturage; at the same time there are acres and acres of this small growth that is coming forward very rapidly, as Secretary McKen stated was the case on his farm.

Mr. BROWN—The remarks of Mr. Leland bring to my mind something that has come under my personal observation in relation to the pine. Perhaps I have seen more of the pine growth of Piscataquis county than any man here. I have explored the forests along our lakes and rivers, and I claim to know something about the pine. I have seen thousands and tens of thousands of acres of our finest spruce, which is now being cut off and taken to the mar-

ket more rapidly than the pine. If the destruction is going on with the spruce more than with the pine, the pine is very likely to survive the spruce.

In 1848 or 1849 I had occasion in passing from Augusta to this place to accompany a gentleman of very much greater age than myself, and a man of some distinction at that time in the county. I think it was in the town of Benton that we passed through a growth of young pine,—they were perhaps six or eight inches in diameter. When we came into that growth he said to me (he was a man who was reared in Fairfield) “When I was a boy this was a corn field, and the old corn hills can be seen here to-day.”

We stopped and took some observations, and there were little hillets that looked like the old-fashioned corn hills. I did not have occasion to pass over that road again until 1864 or 1865 and then it was in the winter, and I found that the lumbermen were actually cutting off sizable logs for the saw mill to be manufactured into boards. I remember another instance some years prior, in 1843 or 1844, I was at ——— and there was a very fine growth of young pine standing on a point that made right into the lake. I know of a man who went upon that point and examined the trees, and came to the conclusion that there was not a tree there that was fit to cut for lumber. About 1860 I had occasion to visit the lake in the winter time and men were hauling off heavy lumber and driving it down the river to Old Town. Now, wherever this soil is adapted to pine, we shall find when that land is left to itself, the pine will spring up and mature. I have every reason to believe from the old pines that I used to meet with when in the woods, that pine is a natural growth of our soil, and when the pine shall cease to grow in Maine we shall no longer need a national garland.

Mrs. BEEDY—Now I will sum up what I think to be the points in this discussion: We should select the pine as our floral emblem on account of its historical value. I think the children in every school room should be asked to describe our State seal. I wonder how many in this audience can tell exactly how many things are engraven upon it. If you should look at it you would see that the only thing on the background is the pine. It was the pine tree that made our State; it was the great giants and monarchs of the forest that attracted the King of England to this country. He sent out his emissaries to select them for his masts.

I was very much interested to sit at the feet of a gentleman almost ninety years of age, and have him tell me about those old

pine trees, some of them ninety-two feet long. We do not know very much about those now, but our children ought to learn about them.

We should select the pine first, then, on account of its historic value; and secondly, we should select it for its beauty. As I came over the ground this morning and saw the pine in the forests I thought, riding through the State in the winter we cannot see the golden rod, but we can see the pine; it is perennial, always green; and so should our State emblem be. A few weeks ago I was confined to a sick room and a friend sent me some pinks with the pine; and I thought I never saw the beauty of the pine, as it was shown in combination with the pinks. And thirdly, we should make it our State emblem for the sentiment connected with it, if for nothing else. It is engraven in the hearts of our people. I found in looking over a paper a notice of a meeting of Maine people in Chicago, and it included a poem, from which I took this little extract:—

"To-night across my senses steals
The perfume of the pine;
O! sweeter far to homesick hearts
Then draughts of fragrant wine."

If any of you have ever been homesick out of the State of Maine, the thing you wanted to see was the pine, and the aroma you wanted to smell was the pine. The people of Ohio have for their emblem the Buckeye or Horse Chestnut, and they love that just as we love the pine. A few weeks ago they had a convention and a little poem was read,—I give you this snatch:

"O! the tasseled corn for the whole broad land,
For the Union no power shall sever;
But the Buckeye brown for the Buckeye State
Shall be our badge forever."

And I think that we in Maine can say:

"O! the tasseled corn for the whole broad land,
For the Union no power shall sever;
But the pine tree green for the 'Pine Tree State'
Shall be our badge forever."

Mr. Sampson, the principal of the academy here, very kindly consented to lend his co operation with reference to this meeting and to use his influence to have his pupils attend the meeting, and, for one, I feel very grateful that he did so. I am particularly gratified with a feature to which he has incidentally called by attention, which is this—while the pupils come here ostensibly as listeners they also come here as students, and one of the duties which

the principal has seen fit to impose upon them is to prepare a report of the papers and the talk presented here at the present time. I suppose some of them are scribbling down what I am saying now, as they have what Secretary McKeen and the other speakers have been talking about; and in due time it will get into the academy and perhaps through them be handed down to future generations of pupils. What I wish to say is this,—I want to encourage just that kind of work, because if we can interest young men and young women, and boys and girls in this work of fruit growing and flower culture, or in anything that will cultivate a better taste and increase a knowledge of Maine and what grows in it, that work is in the right direction.

Through the courtesy of Mr. Sampson, the secretary received a very neatly prepared report of the afternoon session, and it gives him pleasure to publish so much of it as refers to National Floral Emblems:

Mrs. Beedy read an excellent paper prepared by Janet L. Dingley of Auburn. A short resume of the National Floral Emblems of countries across the Atlantic, opened the article—The shamrock of Ireland, the thistle of Scotland, the rose of England, the fleur de lis of France and the edelweiss of Switzerland, each by its manner of growth on events connected with its history, bringing dear and inspiring memories to minds of loyal citizens.

The first movement towards a United States Floral Emblem was made in the woman's congress at the World's Fair. Among other ideas advanced it was proposed that the emblem take the form of a garland composed of as many flowers as there are states in the Union, each chosen by the respective states. The ballot was opened November 4. Several states have already decided. Vermont will be represented by red clover; Iowa chooses Indian corn; California the poppy, and Wyoming the sunflower. What shall Maine choose? The paper did not commit itself but presented fairly the arguments in favor of the various flowers.

The apple blossom would make a fine appearance in the garland, but it withers and falls the day it is born and can hardly represent the enduring nature of our State. Golden rod is perhaps the most widespread of all Maine's flowers, but it is objected that the petals are so fine it would make an indistinct blur in the hands of the engraver. The grand old pine, however, has none of these faults. It is green and beautiful through summer and winter. It has an historic value also. The first flag that led American soldiers to battle

showed upon its folds the figure of a pine tree. Our State has been known far and near as the Pine Tree State. We would do injustice to our history were anything else to represent us in our National garland.

After this a patriotic and touching poem by Miss May was well rendered by Miss Harriet Harmon of Foxcroft. Dr. M. C. Fernald, ex-president of Maine State College, said: "He grieved to notice that the pine tree is fast becoming a thing of the past in this State. The most wanton destruction is being practiced and if not checked, in twenty-five years the graceful pine once waving from every hill top will be seen no more in the forests of Maine. He gave us figures showing that as compared with hemlock, fir and spruce, the production of pine is fast decreasing. Let us vote for pine and then exert ourselves to preserve the pine." Numerous other remarks were made in favor of the pine. Mr. McKeen told us a side-splitting story and then eulogized the pine. He is a natural speaker and thoroughly woke up his listeners. The discussion was closed by a stirring appeal for the pine from Mrs. Beedy. Her graceful manner and pleasing voice fairly captivated the audience. Meanwhile a vote had been taken. The Mayflower received one vote, apple-blossom two, golden rod seven and the pine one hundred and fifty. Thus closed a session interesting and instructive alike to old and young.

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STUDY OF PLANT LIFE.

By Supt. JOHN R. DUNTON, Rockland.

What are you?

A hundred and forty pounds, more or less, of bone and muscle, sensitive to heat and cold, whose needs are food, clothing and shelter.

Of course you are that, and in the next breath you say "my house," "my coat," "my body." Well what are *you*, if what I see is only yours? You do not know and I do not know, but we both do know that we live and think, and that in consequence of our thinking we enjoy or suffer or decide upon courses of action, and that our bodies do our bidding. Explain it as you may you are more than the weight that tips the scale beam, and you have capacities and needs beyond those of the horse you drive, or the dog that follows at your heels.

What are you doing? Thinking, aren't you? Thinking all the time. Perhaps beautiful thoughts, perhaps old and threadbare and distasteful ones; sometimes thinking thoughts that lead to action, sometimes thinking aimlessly—changing as often as the clock ticks and idly drifting on a sea of dreams,—but always thinking.

He who can interpret the messages they bring is educated. Education is not confined to books, nature forestalls the schoolmaster; the child begins his education in the cradle and he must continue it through youth and manhood and old age—who can say that he ends it at the grave? Then as becomes their high office as ministers to the soul that dwells within them, but while we are caring for the body and supplying the physical needs we should not neglect the self. Yes, man is more than a stomach; food for mind can not go in at the mouth, yet it must be fed or go through life starving and little and lean, and go forth naked when the time comes for it to leave the body it inhabits. It is well that we feed these bodies of ours and shelter them from the cold and clothe them.

EDUCATION IS NOT CONFINED TO THE SCHOOLS.

Every man of common sense is to a greater or less degree educated. If he puts his mind to his work and if he observes and thinks and adopts means to secure desired ends in consequence of

his thinking he is developing his intellect and educating himself along the line of his occupation.

But the mind is worth too much to leave to the chance incidents of an occupation, especially in these days of minute division of labor where the man is only a pair of hands. But in our interest for the child are we not prone to forget that he is a child? We know that he was born ignorant. Do we forget that he has made the beginnings of all knowledge, even before he goes to school? Do we not expect our little David to slay his Goliaths in the armor of Saul? Why not give him his pebbles and sling?

Nature is the first source of all knowledge, even of that recorded in books. He is the child of nature and blood kin to his pets, plants and even to his mud pies, to feed a machine that does the thinking. And education is so important that youth can not be spent so profitably as in making a business of learning just as his body makes a business of growing; for no matter how fruitful the opportunities for mind culture in one's work, they will pass unnoticed or if noticed unappropriated if the worker does not know how to learn. And through knowing more of them he has come to know more of himself. Highlands, lowlands, air, water life and the artificial boundaries and industries of his neighbors, and their relations to each other typify the world. And through knowing these the world is his for the learning.

We were born to our environment ignorant. We were born with a capacity for knowing and enjoying all these things, but we are caged in a prison of bone, and walled in except at the gateway of the senses, through which must come the elements of all our knowledge and the same material of all our thoughts—brought to us by messengers of light and touch and sound.

Look out of the window! You see a landscape of hills, valleys and plains threaded by winding streams, and extending to the line of earth and sky. You see the wooded land and clearings, silent now and dreary but June will see them teeming with animal life and gay with flowers.

This is man's environment. All our lives long we are surrounded by the things out *there*. We are dependent upon them for all that we do and for all that we are, and all our lives long they are appealing to us through the senses.

Are they there simply to fatten our bodies that we may be better food for worms?

What is a man?

You asked me to talk on "plant study" and for fear that you might think I had lost the plant in nature I brought here the branch of a plant; a plant that is familiar to you all, so familiar indeed, that I can tell you nothing of it that you did not know before, and yet you are learning something new from it every year. These boys and girls know it; and perhaps they know that the Pomological society takes its name from the fruit of the tree to which this branch belongs.

Yes, it is an apple tree branch and it can tell the children many wonderful things of itself and its brothers and sisters at home, and best of all, if they cultivate its acquaintance, it will introduce them to hosts of interesting friends in the great plant family.

With your mind's eye look at the little apple tree you set out last spring and see if we can find worthy subjects for the child to study. You see it as a whole, but the tree like most living things, consists of parts and each part has its work to do and all of them depend upon each other. Its root hidden from sight reaches down into the soil reaching out and grasping with its woody fingers and holding on against the wind and other forces that try to tear it from earth. Every year it pushes itself farther and farther into the darkness and damp of the ground that its trunk may grow larger and its branches spread wider in the air and sunlight and bear leaves and flowers and fruit.

Root, trunk, branches, leaves, flowers and fruit, each is a whole that also consists of parts, and each part has its own characteristic qualities and uses; and each leads the child to new fields of observation and thought. Cut off the trunk and on the smoothed end of the section you have made you read a whole chapter of its life. At the center you see the white pith and around it the dark heart wood; next the rings of lighter sap wood and encircling all the green bark covered with its smooth brown skin. You know how it looks in the older tree, the pith no larger than this for it is dead and the heart wood darker and also dead, and the sap wood through whose little tubes passes the liquid food and drink to the baby buds and to the life cells that are building a new circle of wood under its jacket of bark. You and I know how this looked and felt on the sticks of the willow whistles we used to make and we know how it lasted in the "sliver" of the pine and we know how sick and pitiful the poor tree looked later in the summer, with its wounded body covered with pitchy blood and perhaps dying.

We know now that every ring by which we counted the age of the logs in the wood pile we did not love were once like the fleshy "sliver" of the pine and next to the bark. We know that year after year a layer is added, and that the little tree grows too big for its clothes. Year after year it stretches its bark and bursts it, but mends it before it is broken so that beneath the rough and outgrown outer bark there is a new and living layer to warm and protect it from the storms.

When we were boys we thought that the trunk stretches itself up and pushed its limbs up with it, but we have learned since then that a tree grows tall only at the top. The branching also is a subject full of interest to the child, and he can begin plant study with the apple tree at home if he chooses. The trunk divides and sub-divides and loses itself in big limbs and these divide still more and lose themselves in smaller branches and twigs. It is bare now and its naked branches rattle in the wind and ice clings to them; the tree is frozen in sleep, but spring will awaken it, and it will clothe itself again with leaves. Beautiful as the leaves are they were not born simply to ornament the tree, they are there to work and they do work. If the tree has thousands of mouths at its roots it has millions in its leaves and not only mouths but nostrils also and it eats and breathes for the tree. The blade of green, ribbed and veined and filled with pores is a laboratory also for transforming the air and sunlight into wood; and its stem and ribs and veins the canals through which it sends its products to the tree. Wonderful as it seems it is nevertheless true that the bulk of the wood comes through the leaves; so the boards and timber of our houses are largely made of air, and even an air castle may be a very substantial dwelling place, after all.

Now let us look at our branch again. A horse chestnut branch would be better, for you would see more plainly the scar left by each fallen leaf.

Beyond the scar you see a little bud which the leaf stem nurtured through the summer and which helped the leaf off to its rest on the ground when its work was finished in the fall; and then the bud began to take care of itself.

Most of the buds on our apple branch are long and tapering at the end but some are short and blunt, and if you watch them next spring as they swell and burst the horny scales that cover them, you will see flowers unfold from the blunt ones and branches and leaves from the slim ones; and you will find that the little bud at

its bursting contains fully formed a telescoped branch, bearing its season's growth of leaves ; and that the flower bud contains a whole cluster of apples.

So the spring and summer only mature the branches, leaves, flowers and fruit, that were born the year before.

Next June the air will be full of perfume from the orchards and we shall again enjoy the pink and white beauty of the tree-tops. A bouquet of apple blossoms is on our table and the child takes one in his hand, or if in his teens it may be that such things are beneath his notice, and only playthings for four-year-olds or nosegays for girls.

But you and I have grown older ; we pity the poverty of his mind and think of "Peter Bell :"

"A primrose by the river's brim,
A yellow primrose was to him,
And nothing more."

Shall it never be anything more? Shall not the school open his eyes to seeing, and his mind to knowing the beauty about his home?

You take the flower and you see the tinted petals and green sepals and the tuft of threads that stand on end in its center, and the yellow powder that trembles on their tops ; and you think of the work it is doing in the orchard. While the yellow legged bees are buzzing back and forth from the hive, and the lazy butterflies are drinking nectar from the blossoms, the pollen grains drop down, and knock at the green doors below them ; they go in, and then they awaken the tree babies asleep in their seed cradles, and feed them and start them growing.

That is what the blossoms are for, and not simply a holiday dress for the tree, and when their work is done, the yellow pollen, the thread-like stamens, and the beautiful petals of the corolla, say good-bye to the baby apples and float away on the wind. The tree has put on its every day wear of summer, but the little green sepals of the calyx always remain and you can see them dry and dead, opposite the stems of the apples you gather in the fall.

Cut the apple across and you see the star shaped cove and the brown seed within—full grown now, and dry and dead. Is it dead? Pull off its brown coat and separate the white inside along the line that passes lengthwise around it. At the pointed end we see a little speck, which under a lens takes form and our seed is not a seed, but a baby apple tree perfect in all its parts.

It was rocked to sleep by the wind that scattered the leaves but it is ready now to awaken in the earth, and send its roots down

and trunk up, and to spread out into the sunlit air the little leaves that were born last summer in the darkened chamber at the apple's heart.

Under proper conditions this little germ would have repeated in itself the history of its parent and perhaps some day it would have sent its fruit to grace the exhibition tables of the society which bears its name. I have told you nothing new about the apple tree and I did not expect to. I wished simply to direct your minds to some of the interesting subjects for study that are presented to the child in the observation of even *one* plant; but if so much is written in one plant what an immensity of knowledge awaits the learning in all the plants that grow about his home. And why should not the school teach him to learn of the things that are always with him? And what I say of plant study is equally true of all nature study.

Plant study is not only adapted to supply the knowledge needs of the child but it is adequate for his mental development and the exercise of all his powers. It interests him, busies his hands and eyes, it cultivates the power of attention and observation and through the intelligent direction of these, it gives clear ideas for memory, imagination, judgment, reasoning and all the other faculties of the mind.

The material is easy to get and admirably adapted for collections. The knowledge that comes from it admits of systematic arrangement, it interprets the sense perceptions, and gives imagination the ideas for seeing the world beyond his vision. The clear ideas the child gets need names and so plant study increases his vocabulary, just as his oral expression cultivates his facility of speech and power of thought. He knows something and he wants to tell it, and the telling of it in writing affords the natural opportunity for teaching him the use of capitals, punctuation, sentences, paragraphs and all technical form of written language. He draws the leaf, or the fruit or the parts of the flower, and thus gains ideas of form as well as cultivates his power of expressing form. Plant study cultivates his power to get knowledge first hand, a power that he will need to use all his life, and it gives him ideas to interpret his seeing and the language used in books. He enjoys it while he is at school, it furnishes him with a pleasant pastime after school life is over; it brings him into sympathy with nature and into possession of an inheritance that does not perish with the using.

Day after day the farmer's boy has worked among plants—has he been learning to know them, and understand their language? Is his mind filled with knowledge in consequence of seeing them and does he love them and does his soul respond to their beauty with beautiful thoughts?

Alas, poor "Peter Bell!"

I was a farmer boy, and it has been the regret of my life that my opportunities for learning were lost because I had no teaching.

How commonplace it was! And what an education it might have been, and how full of beauty and sweet companionship it might have been then! And what memories to cheer amid the cares of later years I can only judge by the value I set on those I have and the feeling of my loss.

And I ask you who grew to manhood on the farm and have boys and girls at home, if they shall also miss the blessing that was denied their father? Or shall the school teach *them*, as it did not teach us? I hope so. They who dwell close to Nature's heart, may find tongues in trees, books in the running brook, sermons in stones and good in everything. And I have only touched upon its value as a helper in education.

But plants are only a third of nature and if the child is taught to observe and learn from all, what vistas of enduring pleasure are before him! And what fields of lifelong study are open especially to the country boys and girls.

One person sees more than another, not because his eyes are better, but because his mind is trained to interpret the impressions made upon the brain through the eye. What we see in things is determined by what we know of them. We may all look at the same things but no two will see the same thing for no two have the same interpreting knowledge.

We see with the mind, we do not see with the eyes, the eye is but the window, the eye can not be educated any more than the lens in your spectacles can be educated; eyes, ears and all the other organs of sense are but the instruments that the mind uses in learning. In learning what? In learning the color, size, form and properties of objects, primarily, but if that was all, our learning would be useless. It is not all, for every faculty of the mind stands ready to take what it can use of the materials brought in through the senses, and the name of this material is ideas. That *in* the mind which corresponds to the thing *outside* the mind and the word we apply to the thing is the sign of the idea.

Observation brings in ideas and thought places them side by side and compares them to find out their relations. *Clear* ideas are necessary to thinking and it is for the purpose of giving clearness to our ideas that observation needs to be trained. Observation deals with things and thinking deals with their relations. The mind compares one idea with another and forms a judgment as to the relation that the one bears to the other, and this judgment is expressed by a proposition.

The order of thought then is from the object of knowledge to the idea, from clear ideas to judgments of their relations; and from judgments that express known relations to conclusions establishing relations before unknown.

I have said nothing of memory, imagination and the other faculties of the soul, but they are equally dependent upon the elementary ideas that come through the senses. The grain must go in at the hopper or grist cannot come out of the spout.

The first steps in *any* study should furnish the elementary ideas from the *real* objects of thought and associate with them the terms used in books. Words are the symbols of ideas and only so far as men have like ideas and the same words to stand for them can they communicate their thoughts to each other by means of language. I would not detract from the value of books, and the study of books at school.

Books have their proper place in school and a very large place but they have usurped the place of observation and they have too long stood between the child and knowledge.

And you and I who know just enough of Nature to feel our *loss*, and to regret that we were not taught how to learn, know this too well. We think of our early possibilities and feel our need and go to books to learn—for our school taught us no other way—and when we look for Nature's units out of doors, we cannot find them. We do not see the trees for woods.

The earth beneath his feet is the child's. The heavens that arch over him are his and the sun by day and the stars by night shine for *him*. The land and water and life, the air that envelopes them and all the forces that act upon them or are manifested through them focus their rays upon him. He is the center of the universe as he is the center of the circle bounded by earth and sky. And this home slice was cut for him from the big round world, to feed his growing mind and bring him to the full stature of his knowl-

edge. Shall he have it? Or shall others eat it for him and tell him how good it tastes?

If the child learns he must learn as all learners have learned, from Adam up. The history of the individual must be the concentrated history of the race.

GOOD FOOD FROM THE GARDEN.

By MISS ANNA BARROWS, Boston.

This subject does not belong directly to the work of the pomological society, but as we look at it we may see the connection. Probably the foods of primitive people were nuts or fruits already provided by nature and requiring little or no cooking. The earliest experiments in actual cooking were probably broiled meats; the cookery of fruits and vegetables indicates a higher degree of civilization. A criticism made by students of foods in other countries is that meat forms too large a proportion of the food of the American people; we have not yet learned how to cook and eat vegetables. All the efforts expended in horticulture and gardening are useless unless the fruits and vegetables produced are treated properly in the kitchen, therefore it is desirable that this society should consider the question of cookery.

Before we can cook vegetables intelligently we must understand their composition and to-night I have chosen a few that might be called typical vegetables. We will begin with the potato and I am sorry to say that in many houses the knowledge of vegetables apparently begins and ends with the potato, for we use it when we might better substitute other vegetables. It is a question whether we shall remove the skins before or after cooking. There is a loss of mineral substances and some of the solid portions which lie next the skin, but for many purposes it is a convenience to the cook to have the potatoes pared before they are boiled, and this is always desirable when the potatoes are imperfect. When we depend on the potato for nourishment we do well to cook it in its skin, but if we have other green vegetables like celery, lettuce or cabbage to give us the required mineral substances, what we lose in this way is often made up by the gain in the after preparation. Since these potatoes are pared and cut they must be covered with

cold water to prevent them from turning dark until we are ready to cook them.

Next we shall use some carrots and to gain time in cooking and present them in the most attractive form on the table, they are to be cut in small portions. One reason why many of us do not like vegetables better is that we have been accustomed to having them cooked in only one way. The New England boiled dinner is good in its way, but this becomes unpalatable when it appears too often. We scrape the carrot since it has a thin skin, though a turnip should be pared because its skin is thick. This particular carrot has a ring of green on top which must be cut off, this is some of the green coloring of the plant which makes its appearance in the top of the root when not covered with earth and gives a strong bitter taste and therefore should be removed. I now cut the carrot in slices one way and then across the other lengthwise, and then turn it down on the side and cut across so that it falls apart in little tubes which cook quickly, are easily served, and make an attractive dish. Although we may lose some of the nutritive qualities of the carrot by cutting it in small portions, still if the water in which it is cooked is retained, all the goodness is there. It might be cooked in soup stock which should be allowed to evaporate at last leaving just enough to moisten slightly, and thus it would have a flavor of meat, or it might be served with a white sauce. A very pretty dish is obtained by sprinkling a little chopped parsley over the carrot after it is cooked.

Food often tastes better if it looks well, and if we wish to make these despised vegetables attractive we must put more care into their preparation. One reason for our dislike of vegetables has been our carelessness in this respect. A decayed portion, or a green place, or a root which might conceal earth not easily washed out will give a disagreeable flavor to a whole kettle full, and often the kettle itself is responsible for ill flavors.

Very few vegetables contain fat therefore we add butter or fat meat to them. When studying foods we are often astonished to find so large a percentage of water, and wonder that such articles have any real food value. We must remember that our bodies are about three-fourths water, therefore we require foods which are largely water. Many persons eat too much concentrated food and one of the great advantages of the more general use of fruits and vegetables is that in that way more water is taken into the system.

Tonight we cannot make any use of dried vegetables like peas, beans or lentils. Some experiments with them recently have shown me that if such vegetables are soaked for twenty-four hours or longer they will cook as quickly as when fresh, while if they are half soaked they require a long time for cooking. Tonight to illustrate the absorption of water by dried vegetable products, I shall use a manufactured substance, macaroni. In this country it is not as common a food as it should be, but it makes an agreeable change, is economical and nourishing. We have here about one-fourth of a pound or four cents worth. This has been cooked rapidly in boiling salted water until tender, then drained and covered with cold water which makes it firmer and in better shape for using afterward. I am using the macaroni to illustrate one use of tomatoes, from which a sauce is to be made to serve with it. Many times we want an extra dish on our table in a hurry when some supply has failed us. We can always have a package of macaroni and a can of tomatoes in the house and a substantial dish can be prepared quickly.

There is little danger in using canned foods if they are removed from the can as soon as it is opened. If only a half can of tomatoes is used and the remainder be put away in the can, the acid of the tomato acts upon the tin as is impossible when the can is tight. All canned foods are much better if well aired before serving. If fruit is turned into a shallow dish and left to stand for an hour or more before a meal it has a much fresher taste.

The tomatoes are rubbed through a strainer and are then suitable for a sauce or a soup. I melt one tablespoonful of butter, then stir in one tablespoonful of flour, one-half teaspoonful of salt and a little pepper. Cook till frothy and then add one cupful of strained tomato and cook until we have a smooth, thick sauce. If we wish to flavor this sauce with onion we can do it in several ways, we may cut it fine and cook in the butter, or cook it with the tomato before straining, or as I shall use it now by cutting a slice from the base of the onion and pressing the cut surface of the onion firmly against a grater over the sauce-pan containing the sauce, and several drops of onion juice will follow this pressure. In the same way in which this sauce is made we might make a soup by adding an equal quantity of meat broth or soup stock, and more seasoning. But now the tomato is added to the sauce and heated thoroughly. This is excellent to serve with cold meats.

Another dish suggested by this tomato sauce is a combination of rice and meat. Line a mold with a half-inch layer of cooked rice, fill with chopped meat (lamb or beef) mixed with a tomato sauce, cover the whole with more rice, and steam until well heated, then turn out of the mold and pour more of the sauce around it.

Some one has said that in the past the New England idea of vegetables included only potatoes, cabbage and turnip and beans and corn. I fancy that if we should go through this State taking a census of the varieties of vegetables used, we should find many families that seldom used any others. The Indians had about the same variety cultivated in this country before the white men came and it is surely time for us to make more progress in this direction.

There are many persons who have not learned to like asparagus because they have not found out how easy it is to cultivate. It is a valuable vegetable because it comes in a season when there are no other green foods, and an asparagus bed well started almost takes care of itself. Cauliflower, oyster plant, Brussels sprouts, egg plant and mushrooms are all delicious and yet not generally raised by farmers.

There is one substance in vegetables which is especially necessary for us to know about because it is so difficult to cook, and that is the cellulose or woody fibre. The amount varies in different vegetables and in the same vegetable at different stages of its growth. A beet, for example, is quickly cooked in midsummer, but later in the year will require several hours.

All of our vegetable foods can be served in a variety of ways, though there are but a few different methods of cooking them. In general we may say that vegetables are better if boiled rapidly, while meats are improved by stewing or slow cooking. The potato may be served whole, it may be mashed and made into croquettes or we may cut it up after cooking and heat it in a white sauce, or make it into a soup as we shall do to-night, or serve it cold with a dressing as a salad, and almost any other vegetable may be served in these and many other ways. Most of us would probably agree that if we could have the potato cooked in but one way that would be as a baked potato, but when we have potatoes too imperfect to bake we may boil them, mash them and make into soup or croquettes.

The summer vegetables are not available to-night and therefore I have said little about them. Many times peas, carrots and other vegetables having sweet juices are boiled in a large quantity of

water and then a colander is placed over the sink, the vegetable turned in and the best flavor goes down the sink spout. With vegetables which have strong flavors like the onion and turnip it is well for us to use a large quantity of water and drain them in order to remove some of the overpowerful flavor, but in green corn, peas and squash we should retain as much of the sweetness as possible.

The onion is a wholesome vegetable and should be freely used. It is easy to peel onions if we keep them under water. If they are extremely strong the water should be changed once or twice while they are boiling. When we have onions left from dinner they may be cut up, mixed with a cream sauce, put in a shallow pudding dish and cover with a layer of buttered crumbs, then cook until the crust of crumbs is well done. Many people like onions in this way if not in any other fashion, and if we can by any means manage to make people eat more vegetables we are doing a good work. There are many dishes that we might prepare from vegetables that would give a desirable variety on our tables and make our daily bill of fare much better. It would be far better for us, especially in the summer season, if we ate less meat and hot bread and more vegetable foods. The potatoes which were pared at the beginning of this talk, have now been boiled until tender and are to be drained, mashed and made into a soup. For each cupful of mashed potato I shall use a generous pint of milk, as the potato is heavier than the milk a slight thickening of flour is needed to keep the two parts smoothly together. I use one tablespoonful of butter and a little less of flour, one-half teaspoonful of salt and the same quantity of celery salt and a speck of pepper, these are cooked together till frothy and then blended smoothly with the potato and milk and the whole strained. Last of all I add a few drops of onion juice and a little parsley. This is not fresh but dried parsley such as we may save from our gardens in summer. If too thick more milk or water should be added. In the same way soups can be made from almost any other vegetable.

Wilted vegetables are less palatable and usually require more time in cooking, but their condition can be improved by soaking in cold water. If we take a cabbage that has been stored for some time and cut off a slice from the stock and place it in a pan of water there will be a surprising change in the texture of the cabbage. Our next dish will be a cabbage salad. For this we may make a salad bowl from the cabbage itself, folding back the outer leaves then cutting out the center, chopping it and putting it back

again into the leaves. This will give us an illustration of a vegetable which is suitable to eat uncooked, or as a salad. Olive oil is a wholesome form of fat especially suitable to serve with cold vegetables, but as many persons do not like that, to-night we will use a dressing where butter and milk supply fat.

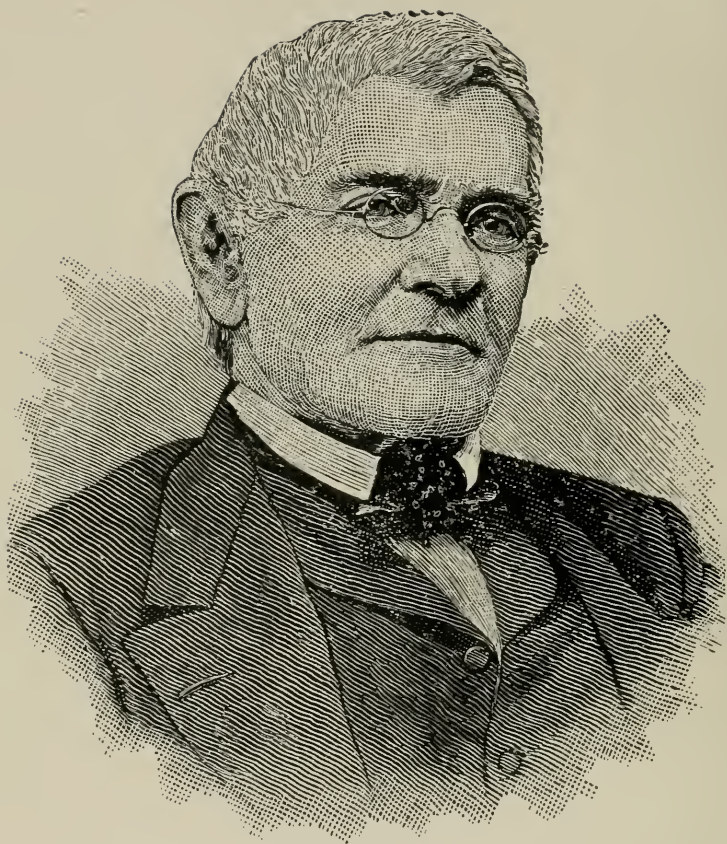
BOILED SALAD DRESSING.

Melt one tablespoonful of butter in a saucepan, add one tablespoonful of flour, cook together till frothy but not browned, add one-half cupful of vinegar, and continue cooking till the mixture thickens; then remove from the stove. Thoroughly mix one teaspoonful each of salt, sugar and mustard and a few grains of cayenne, and sift into the vinegar sauce, stirring in smoothly. Heat one cupful of milk in a double boiler, add two beaten egg yolks, and cook like soft custard, stirring constantly. When slightly thickened remove the upper part of the double boiler and gradually mix the custard with the vinegar sauce. Beat the two parts together with the egg-beater until perfectly smooth, strain before it cools. Put away in small glass jars closely covered; it will keep for weeks in a cool place even if the jars are not air-tight.

This formula admits of many variations. A whole egg may be used in place of egg yolks, but like any soft custard the dressing is smoother when yolks only are used. This is a particularly good way to turn to good account any yolks remaining after making angel cake or meringues, where whites alone are admissible. If there happens to be three or four yolks on hand instead of two, and it is not desirable to make a larger quantity of dressing, all may be used in this with no bad result. Chicken or veal stock can be substituted for milk. A thicker dressing may be made by using more flour or cornstarch in place of flour. For watery vegetables a thick dressing is desirable, and for others the sauce may be reduced by adding a spoonful of vinegar, or cream or stock to the portion to be used. The seasoning may be varied by changing the proportions given above, or by using vinegar already flavored with tarragon or garlic, or by the addition of celery salt, but it is usually best when making a large quantity of dressing to use only the ordinary seasonings and add special flavors on occasions. Celery salt, for example, would not be agreeable in all cases, but may be used for a chicken salad, especially when fresh celery cannot be obtained. The jar of dressing should be thoroughly stirred before using, as the butter, like any other fat, has a tendency to rise to the top.

SECRETARY'S PORTFOLIO.

The papers and other matter contained in the following pages happen to form no part of the transactions of the Society, yet are so related to the fruit interests of the State as to be entitled to the place assigned to them here.



JOHN J. THOMAS.
HORTICULTURIST AND AUTHOR.
1810—1895.

[See page 124.]

SECRETARY'S PORTFOLIO.

AN ENTHUSIASTIC HORTICULTURIST.

Many fruit growers have been identified with the work of the Maine State Pomological Society in the past. Charles S. Pope, of Manchester at the first meeting for organizing was chosen treasurer of the society, and from that time to the present he has been an able and faithful officer of the society. On the retirement of Robert H. Gardiner from the presidency, Mr. Pope was elected president in 1884 and year after year was re-elected until the present year. It was a remark of his at our Foxcroft meeting last winter that he had attended every public meeting of the society, and to this the writer may add that he was never an idle or indifferent listener on these occasions. In view of the valuable services rendered to the fruit growers of the State it is a pleasure to present our many readers with a brief sketch of Mr. Pope and an excellent portrait.

Only a few rods to the north of the "Forks of the Road" in the town of Manchester there is a stately rural home, surrounded by magnificent shade trees, and tastily adorned with beautiful shrubs and flowers. Nearly seventy-five years ago Mr. Pope's father settled upon this place when he was only nineteen years of age. The old Vassalboro home from which he came in later years became the property of Burleigh & Bodwell and was made famous among stockmen for its thoroughbreds. Four years after coming to Manchester he married Lavinia M. Stackpole of North Berwick. From this marriage there were four children, three daughters and a son. Many years of health and happiness were granted to both father and mother. During the past year the mother was stricken down with apoplexy and after months of helplessness death came to her relief. The father still lives to mourn his loss, while rejoicing in his own good health and pleasant surroundings.

The son was born September 3, 1841. He says he sought a wife among the fruit growers of New York, and married M. Elizabeth Carpenter of Ulster county. They have four children, three boys and one girl. The children have been trained to enjoy fruits and flowers, and with one accord as it were all seem to be natural fruit growers. We only wish some of our cold-hearted farmers could see what these children are doing for amusement and profit about their garden. The lesson would convince the most indifferent that children can find pleasure in doing these things. Guide them and encourage them and you bestow upon them more substantial wealth than hoarded dollars can give.

Before settling in Manchester, Mr. Pope's father had a nursery of apple trees in Vassalboro, and when he sold them he reserved some of the trees and brought them to his new home. The oldest trees on the hillside orchard came from this nursery, some 300 trees in all. When he was fourteen years of age the son planted a nursery of his own, and from this source the father and son began to set as soon as the trees were large enough, setting about one hundred trees a year for five or six years. Since then, additions have been made from year to year until the hillside is covered with trees. There are about 1,600 trees, covering not far from thirty acres of land. The orchard contains Baldwins very largely, though there are Gravensteins, Hubbardstons, Tompkins, Talman's Sweets, R. I. Greenings and Roxbury Russets. The Baldwin is the main crop, and under the skillful culture given to it, it has borne bountiful crops of choice fruit to reward its skillful owners. Exhibitors at our fairs have learned to respect the grower of this fruit, for it has been rare that fruit from this hillside has not borne away a large share of premiums. There are two things about this fruit, it shows a skillful grower and a skillful handler, both of which are important in exhibition fruit.

Nor have his labors in fruit culture been limited to the orchard. He has a large, well arranged garden of small fruits—long rows, unobstructed by trees that are easily worked with the horse. An abundance of these luscious fruits have thus been grown for a large family, and the writer doubts if there is any family in the State that derives more substantial pleasure from the fruit garden than the Popes.

In recent years Mr. Pope has taken great interest in the culture of pears, plums and small fruits. His grounds contain twenty-two varieties of pears and twenty-six varieties of plums, Japan plums,

apricots, peaches, quinces, etc. The vegetable garden is not neglected, for it is on a large scale both in extent and variety. He recently said in a letter to the writer: "It is fortunate I left the Society when I did, for if I attend many more meetings, I shall get to be so enthusiastic a grower of fruits and vegetables that I shall neglect everything else."

Mr. Pope and his father have long been manufacturers of granite wedges and half rounds for the use of quarrymen, but in the midst of business there has been found time for the care of the orchard and garden.

There are many traits in Mr. Pope's character that might be dwelt upon with profit in a sketch like this, but there is one trait to which the fruit growers of the State are indebted far more than we can express at this time. It is this, his willingness to impart information to others. His methods are good and many times he has told the fruit growers of the State the *how* and so far as possible the *why* of successful fruit culture. The public has always enjoyed listening to his addresses in fruit culture. Secretary McKeen of the Board of Agriculture, in response to requests for speakers on fruit growing has found him one of the most acceptable in the State.

While he has retired from official duties in our Society, it is the wish of many that we may still enjoy the pleasure of his presence and papers at our meetings. As fruit growers we may never be able to pay the debt we owe him, except in imitation of his willingness to impart to others of that which we have ourselves learned in fruit culture. "Freely ye have received, freely give."

JOHN JACOB THOMAS.

For nearly sixty years American fruit growers and farmers have enjoyed reading the words of Mr. John Jacob Thomas. So often has his name been associated with fruit growing that somehow none of us quite realized that his work on earth was so nearly completed. To be sure it was quite generally known that a few months before his death he was obliged to surrender his editorial labors to others, in consequence of weakness and nervous exhaustion. It was a great source of grief to him that his failing health necessitated his withdrawal from the work so much beloved. This surrender to approaching infirmities was in August last, and from this time on to his death there was a gradual breaking down until the end of life's journey was reached, February 22, 1895.

Mr. Thomas was born in 1810 on the shore of the beautiful lake, Cayuga, and for many years has lived at Union Springs, New York. He was the son of David Thomas, a man of culture and refinement, whose virtues were transmitted to his children. The father was an influential man—a student of nature, an explorer and surveyor. His children inherited his fondness for investigation and research.

Dr. Joseph Thomas, became famous as a writer in the editorial labors that gave the world the popular and valuable *Gazetteer and Biographical Dictionary* published by the Lippincotts. He also edited *Thomas' Medical Dictionary*, and wrote several educational books. He was a great linguist and an extensive traveller.

The subject of this sketch was perhaps less known to the world than the brother mentioned, but it is not for us to say that the life he lived was less useful. It was perhaps an uneventful life as compared with those of his father and brother. He was seriously handicapped in much of his work in consequence of delicate health and weakened vision, but he had the most indomitable resolution. More than this he had great natural gifts and a well developed mental organization with correct taste and artistic temperament. In his contribution to the press he drew his own illustrations, and in his books most of this work was done by himself. Not long since the writer's attention was called to a beautiful oil painting by Mr. Thomas, and by him presented to the former president of our society.

For many years Mr. Thomas was a regular contributor to *The Cultivator* and since 1853 associate editor of the *Country Gentleman*. The readers of this valuable paper, whose publishers have kindly furnished us with an excellent portrait, have been exceedingly fortunate. Much that is written on rural affairs is not worth the reading, but what came from the pen of Mr. Thomas was not only conscientiously prepared but could be depended upon as sound, both in theory and practice. His standpoint was that of a practical fruit grower and farmer. He knew what he was writing about as well as what he wrote for. The journalist, who has to write so much and so often, has far greater influence than many suppose. In these days men read, and more than anything else the reading forms the habits of the man and often shapes his whole career. The words penned by this conscientious student and observer in fruit culture have been found helpful to thousands.

“ ’Tis so with thee—thy spirits gone abroad,

And the glad earth teems with what thou hast done,

And sons of toil with thee in accord—

A thousand arms round out the plans which thine begun.”

But Mr. Thomas did not limit his work to the periodical for there are two volumes prepared by him that have had a wide reading. These are the “American Fruit Culturist,” and “Farm Implements and Machinery.” The former of these has probably had a wider sale than any other work in fruit culture published in the United States, and we are glad to learn that a revised edition is now just published. Another work in nine volumes—*Rural Affairs*—was written by him in accordance with his own ideas. It has been found helpful in many ways and will be read and studied by the student of agriculture in years to come.

Although Mr. Thomas lived to a good old age, and enjoyed a particularly useful life, it is pleasant to think that his work is only begun and that the seed he sowed will spring up and bear still more abundantly in the years to come. The fruit growers of Maine join with others in paying grateful tribute to the memory of his useful life. May the many lessons he taught be long remembered, and may his quiet, untiring efforts to advance the interests of American pomology inspire us to similar work, while with grateful hearts we rejoice in the useful life of such a man as Mr. Thomas. He was the last of a trio, notable for their work in promoting fruit culture in America, Downing, Barry and Thomas. They are greatly missed in pomological circles, but their works live to enrich the lives of others.

THE RUSSETS.

Great confusion exists among fruit growers regarding the nomenclature of the russets. This confusion perhaps is no greater than it has been in the past, and the Secretary is convinced after considerable correspondence and investigation, that there is quite as much confusion in other states as there is in Maine. Of one point there can be little doubt, and that is regarding the American Golden Russet, for which in recent years the Society has offered premiums until the present year. The executive officers became convinced that very few of this variety were grown in the State and that several other russets were exhibited year after year under that name. Accordingly the premiums were withdrawn on American Golden Russets and in place of this, on account of the excellence of the Golden Russet a premium is offered on that variety and it is hoped in future judges may be able to go thus far with certainty. In answer to a recent letter Mr. Wm. A. Taylor, Assistant Pomologist of the United States Department of Agriculture writes :

"I regret that we can not furnish you cuts or accurate descriptions of the "russets." The subject has not been investigated here, and I am satisfied that the confusion is so great that a general examination and comparison of the fruit and trees of the different varieties will be necessary to settle several disputed points. The following varieties are well known and are quite generally conceded to be distinct and entitled to bear the names here used for them: Bullock—(*Bullock's Pippin*" of Coxe) (*American Golden Russet*" of Downing. Golden Russet (of Western New York)—Barry. Golden Russet of Downing (*Russet Golden* of the earlier editions of Barry) (*English Golden* of Warder.) Roxbury (Roxbury Russet of Downing.) Pomme Grise of Downing. Concerning most of the other russets there is much uncertainty either in regard to the correctness of names or their distinctness as varieties."

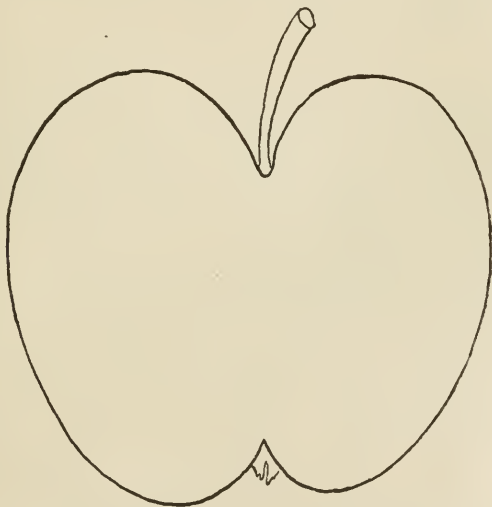
The object of this article is not to settle disputed points regarding the russets but to give as much information as possible to aid in the identification of varieties. Several times the same subject has been under consideration and ably discussed at meetings of the Society. Mr. R. H. Gardiner had an excellent paper upon the

“Nomenclature of Russets” (see Transactions for 1882) and this was followed by a paper by Dr. T. H. Hoskins. The writer questions very much whether any progress has been made since that time, in establishing the identity of the russets. It is hoped the following descriptions from several authors may be of service to Maine fruit growers.

AMERICAN GOLDEN RUSSET.

Synonyms Bullock's Pippin, &c.

This delicious table apple is a universal favorite with all who can appreciate delicacy of flavor and fineness of flesh in an apple, and yet it is not a profitable variety for orchard planting, because the fruit is very apt to be imperfect. The best I have seen were from the South and sandstone soils.



AMERICAN GOLDEN RUSSET.

Tree vigorous, upright, round-headed, small, foliage large, healthy. Fruit small to medium, roundish, conic, regular when perfect; surface smooth, yellow, covered with thin russet, sometimes faintly blushed; dots minute. Basin shallow, regular, eye small, closed. Cavity acute, regular, stem long, slender. Core medium, closed, meeting the eye; seeds numerous, pointed; flesh yellowish, very fine grained, tender, when fully ripe almost melting, like a pear, juicy, becoming dry when over-ripe. Flavor sub-acid,

rich, aromatic. Quality very best. Use, dessert. Season, November and December.—From Warder's "American Pomology."

Under one of its synonyms Bullock's Pippin, Elliott, in "Western Fruit Book" thus describes the American Golden Russet:

Tree ultimately of only medium size, with a round, regular head, shoots erect, rather slender, admirably suited to rich soils of Southern Ohio, Indiana, the Southwest, &c. Grown South, the fruit is almost entirely covered with russet; North, in sandy soils it is a warm, rich yellow, with only marblings of russet. Size, small to medium; form, roundish ovate, tapering much toward the eye; color, generally rich golden yellow, overspread with soft russet, and in the sun, a marbling of red; stem, slender; cavity, narrow, regular; calyx, small, closed; basin, shallow, sometimes four rowed; flesh, yellowish, tender, juicy, almost buttery, delicate, sprightly; core, large for size of fruit; seeds, full, ovate, pyramidal. December to January, South.

Synonyms—Golden Russet, Sheep Nose, Bullock's Pippin, Little Pearmain.

The American Golden Russet is one of the most delicious and tender apples, its flesh resembling more in texture that of a buttery pear than that of an ordinary apple. It is widely cultivated at the West and in New England as the Golden Russet, and though neither handsome nor large, is still a universal favorite, from its great productiveness and admirable flavor. The uncouth name of Coxe, *Sheep Nose*, is nearly obsolete, except in New Jersey, and we therefore adopt the present one, to which it is well entitled. The tree is thrifty, with upright shoots, dull reddish grayish brown. Fruit below medium size, roundish-ovate, dull yellow, sprinkled with a very thin russet. Stalk rather long and slender, calyx closed, and set in a rather narrow basin. Flesh yellowish, very tender, juicy, with a mild, rich, spicy flavor; best October to January.—From Downing's "Fruits and Fruit Trees of America."

From these descriptions and the illustration it appears that the American Golden Russet is not grown to any extent in the State. Other varieties of russets have been erroneously called by this name.

GOLDEN RUSSET.

Synonyms—English Golden Russet, English Golden, Russet Golden. This is an old English apple described by Ronalds and Lindley as Golden Russet, and as that is its commonly accepted name in this country we have followed it. It is one of the popular apples, succeeding in nearly all sections and especially in rich western soils. The tree is thrifty, vigorous, spreading, rather irregular, forming a bushy head. Young shoots slender, dull reddish brown, slightly downy, with numerous small white dots. An early bearer.

Fruit medium or below, roundish, or roundish oblate; skin, rough; color, yellow, mostly covered with dull russet and having a bronzed cheek in the sun; stalk, short, small; cavity, medium or rather deep; calyx, closed; ligments, rather long, often a little recurved; basin, broad, rather large, slightly corrugated; flesh, whitish yellow, fine grained, rather compact, sprightly, mild, sub-acid. Good to very good. December to March.—Downing's "Fruits and Fruit Trees of America."

Fruit below the middle size, pretty regular in its outline, without angles, generally about two inches deep, and two inches and a quarter in diameter. Eye rather small, close, moderately depressed, surrounded by irregular plaits, part of which are more prominent than the rest; stalk very short, deeply inserted in an uneven narrow cavity, not protruding so far as the base; skin thick, of a pale copper color, yellowish russet, very thick and rough on the shaded side with a few patches, occasionally, of bright red on the sunny side and varicose at the base. Flesh pale yellow, very fine and crisp; juice not plentiful but saccharine, of an aromatic and slightly musky flavor.

A dessert apple from December till April.

The Golden Russet has been known in our gardens ever since the time of Ray, who makes it synonymous with the Aromatic Russet. The trees are very hardy, living within bleak situations; they grow to a good size and are rather remarkable in having a profusion of slender pendulous branches.—"Guide to the Orchard and Fruit Garden" (1846) by George Lindley.

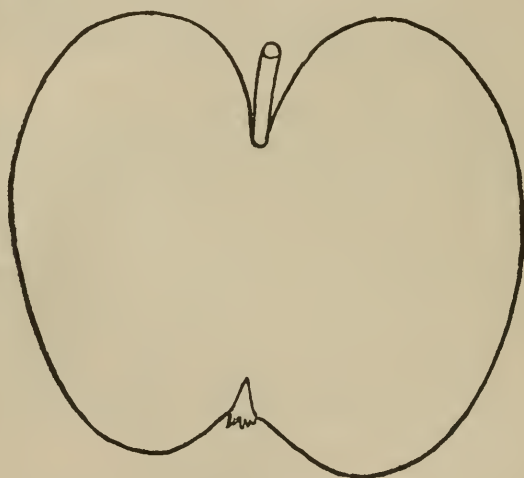
The origin of this apple is unknown; it appears to have been first cultivated in Essex county, Mass. The fruit is of medium

size, round, rather oblong, and of a regular form; the skin is a smooth, yellow russet; flesh remarkably tender, spicy, and high flavored. The tree is very upright and handsome in its growth; bears abundantly; and is a valuable fruit, ripening in October, November, and December.—Printed in 1847 in “The New England Book of Fruits” by John M. Ives.

Downing says “there are many Golden Russets about the country, and it is difficult to identify them.”

ENGLISH RUSSET.

The English Russet, sometimes called Poughkeepsie Russet has been frequently shown at our exhibitions; and Downing says the English Russet described by Warder is entirely distinct from the one he describes, being large, globular, flattened, somewhat one-sided, surface uneven, green. In season from December to January.



ENGLISH RUSSET.

On account of the confusion an exhibition of russets always makes it has been urged that the premiums offered for them in doubt should be entirely omitted. The executive officers, however, concluded that it would be more satisfactory to continue in a modified form, hoping sufficient knowledge may be gained before many years to enable fruit growers to identify them.

BOOKS FOR REFERENCE IN STUDYING VARIETIES OF
THE APPLE.

In answer to a request for information upon the subject, Mr. Wm. A. Taylor, of the Agricultural Department, Washington, kindly made out the following list. Frequent inquiries are made for books upon these subjects and the list is published for the benefit of any who may wish to examine authorities.

Coxe, William, "A View of the Cultivation of Fruit Trees in the United States and of the Management of Orchards and Cider." Philadelphia, 8 vo., 1817.

Thatcher, James, M. D., "The American Orchardist," Boston. 12 mo., 1844.

Manning, R., "The New England Fruit Book," 2d edition, Salem, Mass. 12 mo., 1844.

Kenrick, William, "The New American Orchardist," Boston. 12 mo., 1844.

Cole, S. W., "The American Fruit Book," Boston, 1849.

Hooper, E. J., "Hooper's Western Fruit Book," Cincinnati. 1857, pp. 333.

Warder, Dr. John A., "American Pomology," Cincinnati. 1867, pp. 744.

Elliott, F. R., "American Fruit Growers' Guide," Cleveland, Ohio. 186—.

Thomas, J. J., "The American Fruit Culturist," New York. 1875, pp. 576. [A new edition of this book was promised the present year and is probably in the market now.—D. H. K.]

Downing, A. J., (Revised by Charles Downing,) "Fruits and Fruit Trees of America," New York. 1892, pp. 1,011. With appendix, pp. 189.

Bailey, Prof. L. H., "Field Notes on Apple Culture," New York. 1886, 1890, 90 pp.

Barry, Patrick, "Barry's Fruit Garden." New edition, New York. 1891, pp. 516.

SCALE OF POINTS

For Use of Judges at Exhibitions.

As a basis for making up awards on our collective exhibits at the Fair, the executive committee have arranged the following scale of points: A catalogue has been prepared in which values are placed upon the varieties of fruit included in the society's premium list. The total of these points will make not more than one-half of the points of the exhibit. When the entry cards are prepared by the Secretary, the points belonging to each variety in the exhibit will be given to it, as for example, Baldwin, 41. The judges will take the list of varieties in the exhibit and score them. The footings of the two columns will determine the awards. Varieties not on our premium list are given a certain number of points. The purpose of this is to make it an object in these collections to show the best varieties of fruit, and the exhibitors who do this will receive full justice. The score of the varieties themselves will determine the points to which they are respectively entitled.

The tables are somewhat defective, the officers not being able to place correct ratings from their own knowledge. Before the exhibition ratings will be inserted from the most accurate knowledge to be obtained. Fruit growers who can supply the missing ratings are invited to send them to the Secretary for comparison.

EXPLANATION.

In the plan of rating, all varieties are supposed to be represented by perfect specimens: under each head the best varieties are rated at *ten*, and all the other more or less inferior varieties by some figure less than ten. It frequently happens that with the best varieties imperfect specimens find their way into the collections. The score following this list will provide a plan for rating the specimens exhibited. The "Total" in this table will be added to the score given the several varieties.

The ratings are more or less defective, but the committee feel confident that some such plan is necessary in order to do justice to the exhibitors. It is believed that experience will determine the defects, and future revisions may correct them.

APPLES.

VARIETIES.	QUALITY.		MARKET.		Productive- ness.	Total ratings.
	Dessert.	Cooking.	Home.	Foreign.		
Alexander.....	4	8	9	0	8	29
Baldwin.....	6	8	8	10	9	41
Ben Davis.....	0	5	6	10	10	31
Deane.....	9	10	7	0	7	33
Duchess of Oldenburg....	2	9	7	0	9	27
Fallawater.....	2	5	6	9	8	30
Fall Harvey.....	6	10	10	0	7	31
Fameuse.....	10	8	8	0	8	35
Garden Royal.....	10	8	8	0	7	33
Golden Russet.....	7	8	7	7	8	37
Granite Beauty.....	9	8	9	7	10	43
Gravenstein.....	10	10	10	0	8	38
Hubbardston Nonsuch.....	9	6	10	7	9	41
Jewett's Fine Red.....	10	6	9	0	7	32
King Sweeting.....	10	9	9	0	8	36
Large Yellow Bongh.....	9	7	7	0	7	30
McIntosh Red.....	9	8	8	0	8	33
Milding.....	8	10	8	8	8	42
Mother.....	10	5	8	8	5	36
Munson Sweet.....	10	10	8	0	9	37
Northern Spy.....	10	10	10	10	7	47
Peck's Pleasant.....	9	9	8	10	5	41
Pomme Royale.....	10	10	10	0	5	35
Porter.....	9	9	7	0	9	34
Pound Sweet.....	8	9	8	0	8	33
Primate.....	9	8	7	0	8	32
Red Astrachan.....	5	9	8	0	8	30
Red Canada.....	9	8	8	8	5	38
Rolfe.....	8	9	9	0	8	34
R. I. Greening.....	8	10	9	9	8	44
Roxbury Russet.....	7	6	9	9	7	38
Russell.....	10	10	8	0	8	36
Somerset.....	9	7	8	0	5	29
Stark.....	3	6	6	9	8	32
Starkey.....	9	9	8	8	9	43
Talman's Sweet.....	8	10	10	8	8	44
Tompkin's King.....	9	9	10	10	5	43
Twenty Ounce.....	3	10	9	7	8	37
Wagener.....	10	10	8	0	7	35
Wealthy.....	6	9	7	0	8	30
William's Favorite.....	8	5	9	0	7	29
Winthrop Greening.....	9	9	6	0	7	31
Yellow Bellflower.....	9	10	10	5	9	43
Yellow Transparent.....	6	9	5	0	8	28
Any other correctly named variety...	-	-	-	-	-	20

PEARS.

VARIETIES.	QUALITY.		Market.	Productive- ness.	Total ratings.
	Dessert.	Cooking.			
Bartlett	10	10	10	8	38
Belle Luerative	8	8	8	8	32
Beurre d'Anjou	9	8	8	8	33
Beurre Bose	10	8	10	9	37
Beurre Clairgeau	5	5	7	9	19
Beurre Diel	8	5	7	10	30
Beurre Hardy	8	-	-	8	
Beurre Superfin	8	-	-	8	
Buffum	7	6	6	8	27
Clapp's Favorite	6	9	8	10	33
Doyenne Boussock	7	-	7		
Duchess d'Angouleme	8	9	8	10	35
Fulton	7				
Goodale	6				
Howell	8	6	9	9	32
Lawrence	9	7	9	10	35
Louise Bonne de Jersey	9	9	9	10	37
Marie Louise					
Nickerson	7	5	5	8	25
Seckel	10	8	10	10	38
Sheldon	10	10	10	6	36
Souvenir du Congres	7	8	6	9	33
Any other correctly named variety	-	-	-	-	18

PLUMS.

Bavay's Green Gage	7	10	10	10	37
Bradshaw	8	9	9	9	35
Coe's Golden Drop	6	7	8	7	28
Gage—Green (of Downing)	10	9	9	8	36
Gage—Prince's Imperial	9	9	10	9	37
Gage—Purple	7				
Gage—Red	7				
General Hand	8				
Guil	7				
Japan—Abundance	7				
Japan—Burbank	7				
Jefferson	9	9	8	9	35
Lombard	7	9	9	10	35
Magnum Bonum	6	8	9		
McLaughlin	10	10	10	7	37
Moore's Arctic	5	6	7	10	28
Penobscot	8				
Quackenbos	8	8	7	8	31
Smith's Orleans	8				
St. Lawrence	7				
Washington	10	10	10	6	36
Yellow Egg	6	10	9	7	32
Any other correctly named variety	-	-	-	-	18

SCALE OF POINTS.

The following scale of points, for determining the values of single varieties, is the one referred to in the preceding introduction.

In many cases it is desirable to have a reason for making awards, Believing that a scale of points would be of great service to judges in determining merit in doubtful cases, and at the same time of educational value to the exhibitor, the following scale has been adopted for the 1895 exhibition of single plates of apples and pears. In order to receive a first premium the fruit must score at least 75 points, a second premium 60 points, a third premium 50 points.

	No. of Points.	Score.
Quality	10
Form	15
Color	15
Size	20
Uniformity in size.....	20
Freedom from imperfections	20
	<hr/>	
Perfection	100

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